THE TIMES
Higher Education
SUPPLEMENT

Put up grants for research that industry needs–SRC

by David Dickson

The value of postgraduate awards for research of direct industrial interest should be increased, the Science Research Council is to propose.

The awards in question are allocated through the Cooperative Awards in Science and Engineering (CASE) scheme, under which a student carries out a research project agreed jointly by a university department and an industrial company or corporation.

After a council meeting last week, the SRC's postgraduate training advisory panel is to prepare a proposal to the DES that awards under the scheme be made considerably higher than the standard postgraduate grant. The difference could be in the region of £400, which would increase the postgraduate grant for the current year to £1,485.

The proposal is in line with the general feeling that the high salaries received by engineering graduates in industry discourages many from remaining at university after a first degree to do research.

Although there have been objections to the higher grants—due partly to the difficulty of determining areas of national need—the council seems to see making an increase the postgraduate grant for as a possible way around this problem.

It is also hoped that making the increased award to CASE students additional awards available to CASE students will encourage highly qualified postgraduates to tackle research problems more directly related to production.

The CASE scheme has itself been declining over the past few years. Although in 1972 it expanded from the more restricted CAPS (Cooperative Awards in Pure Science) scheme, only 181 out of a total of 311 CASE awards were taken up in 1973, compared with 191 out of 248 CAPS awards the previous year.

In 1974, the number of awards under the CASE scheme fell further to 162 out of 309 projects accepted.

Problems in Beirut

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their ridiculously low salaries, suddenly found that they could offer the university a soft loan, subject to certain conditions—notably that the university should not send the letters of termination.

This was a desperate move, but it might have succeeded in obviating at last one of the conditions for reopening—namely, the raising of $1,600,000. As the university had only sufficient funds to pay salaries until the end of February anyway the faculty's decision was tantamount to a compulsory savings scheme. The sceptics, however, remained unmoved.

I decided that the best move would be to try to find alternative employment in Beirut. But with business almost entirely at a standstill, there were few openings, especially for a professor of English whose main claim to fame was a book on *The Decadent Poetry of the Eighteen-Nineties*.

Persistence has its rewards. After a dozen or so abortive phone calls and a handful of interviews I discovered I was a more marketable commodity than I had thought. The *Arab Economist* needed a copy editor; the previous one having taken flight. The English service of Radio Kuwait seemed to feel that 30 15-minute readings on *The Rubaiyat of Omar Khayyam* might be a riveting attraction for its expatriate audience. *Aramco World* conceded that an article on "Napoleon in Egypt" might claim the attention of its business readership. The future began to look less sombre.

Having secured my immediate future, I was beginning to feel rather pleased with myself, and was already convinced that writing ephemeral prose to order was really that for which my academic training had prepared me. So when the news came through at the eleventh hour that the Lebanese Government would guarantee the university's liquidity during the 1975-76 academic year I actually felt let down.

Now, as I dust off my lecture notes on W. B. Yeats and the vision of a full-time journalistic career recedes, at least until this time next year, I am having to consider whether I should resign my position as copy editor at the *Arab Economist*.

But 11 years' residence in Lebanon has bred caution. Besides, the occasional stutter of machine gunfire still rips through the night sky, and the politicians continue to wrangle. And the Lebanese Government's offer to the AUB is, after all, only a loan.

But things are looking up. The students do seem to want to return to classes, so if we can persuade them not to carry their guns and rival opinions into the classroom, we might manage to lurch our way through the academic year.

Maybe next week will be better.

Graduates 'see no purpose in careers'

Many graduates are failing to find a sense of purpose in traditional careers, Mr Colin Slipper, chief careers adviser at Newcastle University, says in his annual report, published this week.

There is a need, he claims, for the Department of Employment to carry out investigations into graduate job enrichment.

The public service, through expanding graduate recruitment, has offered a more secure and better paid alternative to industry. Between 1973 and 1975 the number of Newcastle graduates entering the public service doubled from 78 to 168, whilst the numbers entering private industry and commerce dropped by 25 per cent from 243 to 186.

Some Newcastle graduates have not found fulfilment from their public service jobs. Feedback from a number of former students employed in the executive ranks of the Civil Service indicates a marked lack of job satisfaction.

They do not feel that they are doing something worthwhile which has a proper regard for the public whom in theory they serve, says the report.

In addition, undergraduates seeking employment in the social services are sometimes deterred by what they regard as town hall bureaucracy. Two notable exceptions are the hospital service and housing management.

Students are even questioning the long-held assumption that teaching is a worthwhile career. They seem to feel that comprehensive reorganization, unstreamed classes and other changes in education are making the teacher's life too full of frustrations and obstacles.

At the same time, there remains an "unreasoned belief" among some students that the satisfaction they seek cannot be found in commerce or industry. Some are suspicious of the profit motive in private industry, others feel high taxation and stormy industrial relations hamper personal progress and fulfilment.

This is not to imply that Newcastle's students are all "starry eyed idealists reluctant to put their feet on the unpleasant real ground," says Mr Slipper.

"Certainly they now tackle their career-seeking with a more serious-minded, even earnest, attitude than did their predecessors of 10 years ago. Very few maintain that the world owes them a living, or are arrogant with employers.

The Department of Employment has reconvened the steering group on job satisfaction to investigate the whole problem of what leads to frustration at work and what gives job satisfaction, but the emphasis at present is on manual and clerical jobs.

Manchester stays in NUS, referendum decides

by Frances Gibb

Manchester students have voted by a clear majority to stay in the National Union of Students. The decision this week brings the number of unions who have voted not to leave the NUS to four.

The referendum at Manchester, with 1,694 votes in favour of leaving and 2,128 against, overthrows last week's single vote decision (547 to 546) to leave the NUS. It was decided to hold a referendum instead of a recount.

The result at Manchester, one of the largest unions, will probably quell the movement for disaffiliation. It follows a similar decision at Keele last week who voted by an overwhelming majority of 300 to 50 to stay in. Lampeter voted not to hold a referendum on the issue, and therefore in practice not to leave. Portsmouth Polytechnic recently voted by 570 to 25 to stay within the NUS.

Several student unions have been considering leaving the NUS in protest against its political and financial policies. St Andrews University voted recently by an overwhelming majority to break away and Aston University has also decided to leave from January 1977.

Mr Mark Hapgood, chairman of the Federation of Conservative Students, said he thought that Conservative policy, which is to remain within the NUS and change it from within, had influenced students sufficiently to prevent decisions to withdraw.

Other unions who may soon be considering the issue are Loughborough, Liverpool, Nottingham, Edinburgh, Aberdeen, Heriot-Watt and Strathclyde.

Mr Charles Clarke, president of the NUS, told students this week at Essex University that the enchantment of some members of the union was based on incorrect assumptions: that political decisions of governments do not affect students, and that students could have no real influence on political decisions.

A strong National Union of Students was particularly needed at a time of economic hardship when there were cuts in education spending and high unemployment, he said.

Since Aston's decision to leave the NUS, 19 colleges had applied for membership to the NUS, the union announced this week. In the last four years, the number of student unions had increased from 712 to 805, and student membership by 250,000 to 771,238 full and part-time students. The NUS's income from union subscriptions is £300,000 a year.

● The services of the NUS were strongly defended last week by Mr William van Straubenzee, former Opposition spokesman for Education and an honorary vice-president of the NUS.

Its welfare, insurance and travel services were often taken for granted, he said. In recent years a "motley collection of communists, Trotskyists and others of like or similar mind", had used the NUS as a means of achieving their political ends. Attempts to make it more democratic were welcome.

Oxford gets MIT professor

from Michael Binyon

Professor John Goodenough, leader of the electronic materials group at the Massachusetts Institute of Technology, and a senior professor at the Lincoln Laboratory, is to take up an appointment as professor of inorganic chemistry at Oxford in September.

Professor Goodenough has been at MIT for over 23 years. He has never taught or worked in England, but he said last week that he was looking to Oxford because he sympathized with what the university stood for and had been most impressed on visits by the balance of the department he will be heading.

He added that he had spent considerable time trying to build bridges between the academic and industrial world, and looked forward to spending the last 10 years of his career in purely academic fields.

"I do not anticipate any difficulties in my move", he said, "welcome the opportunity to become closely linked with European science." He had spent three years at Bordeaux, working with the inorganic chemistry department of the university there.

He had maintained friendly relations with Professor J. P. Anderson, his predecessor at Oxford, but had no particular association with the group *per se*", he said.

St Andrews man stands for treasurer

Mr Chris Morgan, former deputy president of St Andrews University students' union, will be standing as a Broad Left candidate for national treasurer in spite of his union's decision to disaffiliate from the National Union of Students at the end of the year.

His nomination was agreed by the Broad Left caucus for the annual National Union of Students elections at their Easter conference in Llandudno. He has taken out individual membership of the union so that he can remain in office if elected, after the end of December.

Another new contender for the top four posts in NUS, which carry annual salaries of £3,200 a year, is Mr Peter Ashby, former Broad Left president of Warwick University. He will be the group's candidate for deputy president replacing Mr Alastair Stewart who is retiring from student politics to take a law degree at the University of London.

Mr Charles Clarke and Mr Jeff Slipman will both be seeking reelection as president and secretary.

Other Broad Left candidates will be Mr Trevor Phillips, president of the University of London Union, standing for vice-president (welfare); Ms Penny Cooper, of South Bank Polytechnic, standing for vice-president (education), and Mr Steve Lloyd, of Liverpool University, standing for vice-president (welfare).

The International Socialists have also chosen their candidates. They are understood to be Mr Jim Wolfreys, standing for president; Mr Peter Gillard, standing for secretary.

Mr Hugh Lanning, who is a Socialist, will be running for a second term as treasurer on a national Socialist candidates' ticket.

Lancaster alternative

The alternative to A-level entrance to undergraduate courses, mentioned in last week's *THES*, has been approved in principle by the Lancaster University senate and the academic board of Preston Polytechnic, who will jointly supervise the scheme.

In the first instance, courses for mature part-time students will be taken at Nelson and Colne College of Further Education only, and not at Preston Polytechnic, as stated last week. It is hoped that other colleges in Lancashire and Cumbria will become involved later.

BEd students picket Keele

Student teachers were due to picket the Keele University vice-chancellor's building yesterday in protest against the low proportion of good honours classifications awarded on Bachelor of Education degree courses.

The students from Madeley College of Education and Crewe and Alsager College of Higher Education say that Keele's awards are third from the bottom of a league table of good honours qualifications for the BEd degree.

They also claim that the proportion of good honours degrees awarded by Keele (23.9 per cent) is not comparable with the number of students admitted with two A-level passes to the colleges.

The dispute between Keele University and the students has continued for almost two years.

Doctor criticizes campus hygiene

Students were highly ignorant in matters of personal hygiene and health, Dr Alex Gunn, director of the health service at Reading University, said last week.

At a conference of health educators in London, Dr Gunn blamed the standard of health education in schools for this deficiency. A "student would complain of a dandruff walking about on my collar" with no idea what it was.

Students who had been protected at home could not look after themselves properly. At some time during their three years, 50 per cent would suffer some form of fungal infection. This often resulted from too infrequent washing and changing of clothes, or "doting down" in someone else's bed or sleeping bag.

Rochampton gets first rector

Professor Kevin Keohane, vice-principal of Chelsea College, London, and director of Chelsea Centre for Science Education, is to become the first rector of the newly formed Rochampton Institute of Higher Education.

Environment director named

Professor Christopher Foster, of the London School of Economics, has been appointed director of the Centre for Environmental Studies, an independent research body in the fields of planning and urban studies.

CLP not PCL

The headline in last week's *THES* "Administrators named for PCL inquiry" should have said that the inquiry was at the City of London Polytechnic (CLP).

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White Paper hits student entry, research and academic jobs

Now the pips really are squeaking

by Sue Cameron

A difficult period of retrenchment for staff and students in universities, colleges and polytechnics was announced by the Government yesterday in its annual review of public expenditure. It will mean a drop of about 4 per cent in student unit costs, fiercer competition for university entry, and a virtual standstill on the recruitment of academic staff.

The White Paper, which covers the period until 1979-80 and which confirms two recent reports in *The THES*, says that the spending projections allow for an expansion of student numbers on full-time and sandwich courses to 600,000 in Great Britain by 1981. Until yesterday the official target had been 640,000.

It adds that although several factors make for uncertainty in forecasting student demand, some increase in competition for entry in some subjects is implied. The proportion of the age group entering higher education is expected to rise from 14 to 15 per cent (instead of 17 per cent in Mrs Thatcher's 1972 White Paper).

The planned level of spending will require a "progressively more effective use of resources". In particular, there will be little if any scope for increasing total staff numbers after 1976-77. Capital expenditure on new buildings, including new purpose-built students' residences, will continue to be severely restricted and more intensive use of available premises will be required.

The paper says that although demand for non-advanced further education is difficult to estimate, demand is growing more rapidly than expected a year ago and the Government assumes that local education authorities will try to meet it, particularly for 16 to 18-year-olds. More intensive use of staff and buildings will nevertheless be required.

According to the White Paper, planned education spending is to be cut by £618m in 1979. It means that for the first time in recent years the education budget will actually shrink.

The teaching force in schools will be held at 464,000 after 1977 instead of going up to 480,000 as previously planned. This will still mean 15,000 more teachers than jobs. The White Paper adds that as pupil numbers decline after 1978-9 "the size of the teaching force thereafter must be further considered."

The £618m cutback is expressed in 1975 prices. In terms of the 1974 prices used in last year's White Paper the cut is £470m which is just under the £500m figure predicted by *The THES* last July.

The cuts mean 9 per cent less spending in 1978-79 than previously planned. In real terms spending will be 3 per cent less than at present.

The cutback will start in 1976-77 when the planned budget will be reduced by £84m. In 1977-78 it will be reduced by £331m and in 1978-79 total education spending will be only £6,024m instead of the £6,642m—at revalued 1975 prices—previously planned.

Part of the reason for the cuts is the decline in the school population.

The Government is planning to cut £2,414m from planned public spending as a whole in 1978-79. Education's share of the cuts will therefore be about 25 per cent and the education budget will lose more than any other Government department.

The second biggest cuts will be in roads and transport, reduced by £506m.

Planned spending on higher and further education is to be reduced by £26m in 1978-79, a cut of 15 per cent. In spite of the reduction current expenditure on this sector will still rise from £1,458m in 1975-76 to £1,513m in 1978-79, an increase of 6 per cent in current expenditure, but the rise in student numbers means spending per student will actually fall by 4 per cent.

Capital spending on higher and further education will drop from £164m in 1975-76 to £123m in 1978-79.

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SRC may lose £10m over 5 years

by Alan Cane, Science Correspondent

The budgets for research in the natural and social sciences reflect the Government's disenchantment with "big" science and demands for research with clear relevance to national needs.

Social Science Research Council funds are expected to show a growth of about 2 per cent. The overall science budget will not grow at all over the next five years although special payments of about £3m will be made in 1976-77 and 1977-78 to compensate the research councils for their losses during the Barber cuts two years ago.

Within the overall budget, the Science Research Council will take a substantial cut in income so the Agricultural, Medical, Natural Environment and Social Science research councils can grow slightly.

The Government has followed the advice of the Advisory Board for the Research Councils and intends to reduce expenditure in the areas of "big" science (high energy physics, astronomy, space science) supported by the SRC in order to sustain the other sciences (including applied science) supported by that council and to enable the other four research councils to continue to develop programmes based on social need as well as scientific opportunity.

It is expected that the SRC will lose about 2 per cent of its budget—or nearly £2m—every year for the next five years. Because so much is committed to international projects and subscriptions there could be a reduction of over 20 per cent in the amount available to fund university research by 1981.

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£m AT 1975 SURVEY PRICES

		1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
HIGHER AND FURTHER EDUCATION											
Universities	capital	110.5	110.6	110.1	122.6	82.8	104.5				
	current	450.8	463.8	474.3	527.0	548.9	571.1		(H/FE capital)		
Further education	capital	129.2	123.5	105.6	104.6	83.8	53.7	150.1	151.6	122	121
	current	539.0	572.7	613.5	624.6	619.7	677.9				
Teacher training	capital	19.5	23.3	18.7	16.7	11.4	4.9		(H/FE current)		
	current	199.6	206.7	214.1	219.8	210.2	208.9	1,499.4	1,498.6	1,514	1,551
Research Councils, etc.		177.4	194.9	201.1	185.1	185.5	172.3	175.8	175.7	172	171
ARTS											
National museums and galleries											
Current expenditure		12.8	14.2	14.5	15.6	16.7	18.1	19.0	19.7	19	19
Total education and libraries, science and arts											
	capital	822.5	908.4	1,015.7	1,003.9	751.7	664.9	634.7	533.2	431	406
	current	4,251.0	4,525.4	4,782.8	5,077.0	5,352.0	5,489.4	5,599.9	5,607.8	5,593	5,589
	TOTAL	5,073.5	5,433.8	5,798.5	6,080.9	6,103.7	6,154.3	6,233.6	6,141.1	6,024	5,995

Buckingham finds London ally

by Annabel Ferriman

The Conservative-controlled London borough of Redbridge has become the first local authority to offer maintenance grants to students studying at University College, Buckingham.

The borough's education committee has agreed to pay student tuition fees up to £325. The tuition fees at present are over £1,500.

Councillor John Telford, the education chairman, said the committee was delighted to be the first to approve grants for the independent university.

"We endorse fully the aims of the university and are very pleased with the policies it is intending to pursue. We approve the emphasis it lays on academic matters rather than on the social and political controversies of the day, which appear to be the preoccupation of some universities."

He thought it unlikely that the council would be called upon to implement the policy for a few years because the university was so small and no-one in the borough was studying there.

Professor Max Beloff, the college's principal, "wholeheartedly welcomed" the news this week.

Money lures some away from study

by Peter Wilby

Evidence that calculations of economic returns are a significant influence on youngsters' decisions about whether to enter higher education emerges from a report now being studied by the Department of Education and Science.

The unpublished report contains the preliminary results of a survey into the attitudes of 16 and 18 year-olds to school work and higher education commissioned last year by Lord Crowther-Hunt, former minister for higher education.

He hoped to get some clues to the reasons for the decline in the proportion of the 18-year-old age group applying for university courses. The survey was carried out by the Institute for Research and Development in Post-Compulsory Education at Lancaster University. The DES is now studying an interim report; a final report is expected later this year.

Youngsters were asked to estimate the average earnings of different occupations, including family doctors, university lecturers, architects, accountants, professional footballers and skilled car workers. Eighteen-year-old boys going on to higher education estimated higher earnings for professions requiring graduate qualifications than did those planning to start work.

Boys intending to enter higher education estimated the average salary of a university lecturer at £3,558, while the 18-year-old school-leavers estimated it at £3,447 and those planning to go on to part-time education at £3,351.

The leavers estimated the salaries of family doctors at £3,781 and chartered accountants at £3,529, more than £300 lower than the estimates of the prospective university and college entrants. The leavers, on the other hand, estimated higher average earnings for secretaries, engineering draughtsmen and professional footballers.

Boys leaving education estimated a professional footballer's average earnings at £4,800; those entering higher education at £4,727.

For both boys and girls, those perceiving little differences between graduate and non-graduate jobs were less likely to go on to higher education than those who expected a high differential in favour of graduates. The differences were even more marked between 16-year-olds proposing to take A levels and those planning to leave school. The median 16-year-old estimate for a university lecturer's salary was £2,860, while an engineering draughtsman was expected to earn £2,964 and a professional footballer £4,952.

The survey estimates that, at 16, a third of the boys and a sixth of the girls have no definite commitment either to staying at school or to starting work and are, therefore, susceptible to "influences and pressures at or near the time of leaving". At 18, three-quarters of the sample had a fairly firm commitment, to some form of higher education. 20 per cent could be swayed and only three per cent were "hard core leavers".

The report confirms the belief, established by previous surveys, that significant working-class drop-out from education is at 16, not 18. There were "no marked social class differences in the percentage of 18-year-olds intending to proceed directly to higher education".

The working-class children, however, were less likely to choose Oxbridge and more likely to choose a college of education, polytechnic, college of advanced technology, or a new university, and they were more likely to be influenced by economic considerations.

The survey suggests that 16-year-old leavers often reject sixth-form and higher education on incomplete evidence. Less than half of those starting work had ever heard of local authority grants for 16 to 18-year-olds. About 30 per cent said they might have stayed on had they known they could get a grant, and 79 per cent had no idea of the value of a full student grant in higher education. Of those who

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New turns in overseas students debate in London and Plymouth

ILEA wants proportion cut to 10 per cent

by Frances Hill

The Inner London Education Authority is considering reducing the proportion of overseas students in its colleges from 25 to 10 per cent over the next six years.

The aim is to "release resources and accommodation" for those who live and work in London, particularly the "less able, the disadvantaged and the unemployed school leaver.

"The cost of overseas students is heavily subsidized by ratepayers . . . and we as an authority can no longer carry an ever-increasing financial burden," said Mrs Janey Rees, chairman of ILEA's further and higher education sub-committee.

If the proposal is accepted ILEA will halt any increase in the number of overseas—full-time and sandwich students next September, and begin reducing the proportion over a five-year period beginning in September 1977.

An ILEA report including the recommendations will be presented to the sub-committee at a meeting on Wednesday.

The proposed changes would involve a reduction from the present level of 8,400 students to around 3,400 by 1982. The 10 per cent figure will cover the authority's colleges as a whole; individual colleges might have more or less than 10 per cent.

An ILEA consultative document shows that one quarter of all further and higher education students from abroad (except in universities) are in ILEA colleges. The number of overseas students in these colleges has risen by about 900 in the current academic year, an increase of 31 per cent over the previous year. Over the past two years the increase has been 36 per cent.

The gross cost of educating students from abroad in inner London colleges is about £14.5m a year. Fees paid by the students amount to £2.2m. The cost to the authority is subsidized by central government through the rate support grant, which is paid to the inner London boroughs. But students on advanced courses (one third of overseas students inner London) do not count towards the calculation of the rate support grant education units.

ILEA's consultative document claims that the "rate-borne subsidy" to overseas students is a form of overseas aid which should be met centrally. It says that approaches have been made to the Ministry of Overseas Development and the Department of Education and Science at ministerial level on the issue.

APT takes up the cudgels

The Association of Polytechnic Teachers has claimed that the DES proposal to increase fees for overseas students "represents a dangerous attempt to resolve what is at root an emotional problem by means of pseudo-economic measures".

There was no evidence that overseas students deprived qualified British students of places on higher education courses, it stated. The argument that overseas students "cost" the educational system some £120m per annum was unsound because "if all overseas students left the country the educational service would not save £120m or anything like it".

Courses which would continue to run irrespective of the presence or otherwise of overseas students would cost as much with the removal of students from abroad.

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Scheme would mean no fees for main exchange countries

by Frances Gibb

The Department of Education and Science is considering a scheme whereby overseas students from countries which have many student exchanges with Britain will not have to pay tuition fees.

The idea has been put forward by the Central Bureau for Educational Visits and Exchanges as a way both of easing the problem of overseas students' fees and of encouraging more student exchange.

Miss Judy Powell, head of the bureau's further and higher education department, said the system would not entail balancing numbers of students visiting each country.

"It is more important to establish the agreement in principle first", she said. "Then the counting of heads can go on. This sort of arrangement could remove a lot of paperwork." The scheme was already taking place between individual institutions on an informal basis, she said.

One country where the scheme might be implemented is France. More British students currently study in France than vice versa. This is partly because of the higher tuition fees in Britain, but also because study in France is a compulsory part of many British courses.

British students in France are increasingly being required to pay a higher cost for courses which they need to take.

The French had agreed in principle, Miss Powell said. The scheme had yet to be considered by the Committee of Vice Chancellors and Principals and the Committee of Directors of Polytechnics, however.

⊙ The deputy director and student leaders at Plymouth Polytechnic this week angrily attacked suggestions recently made by a Cabinet policy group that the Government should charge much higher fees for overseas students in Britain, *Simon Freeman writes.*

They said that many overseas students had serious social and academic problems but they thought that it did not matter greatly if some of them did not understand their books or their lectures or that they lived in tight national cliques outside the mainstream of student life.

The most important thing was that Britain was paying back its debt to the Third World by educating its people at our universities and polytechnics.

Mr Roger Cross, deputy director of the polytechnic, said: "This country has an obligation to take people from the Third World. If a student from overseas and a British student were competing for a place on one of our courses we would give it to the foreigner: after all, the British student can always go elsewhere."

Mr Cross said he would oppose any plan to reduce the number of foreign students in Britain.

"There is no real problem with places or courses" he said. "Overseas students tend to go on technical and scientific courses which are very rarely filled."

This view was supported by student president Graham Cook.

Like Mr Cross he spoke in terms of an obligation to the visitors: "They come here because they want to study subjects which will help their countries. After thousands of years of exploitation it is the least we can do".

Crisis must not affect poly standards, CNAA head says

by David Hencke

Education faces a period of little growth and deferred hopes, Sir Michael Clapham, chairman of the Council for National Academic Awards, warned at the City of London Polytechnic graduation ceremony last week.

He said that Britain was in a "bloody mess". "The economic troubles which beset the world, and which beset this country more than most developed countries, put a question mark against the future development of education and no less against the future of every one of us."

Britain was undergoing a slump as bad as the 1930s and although the economic cycle could improve next year, 1976 was going to be hard. "Resources for public expenditure will be short, which will check the advance of education; employment will be hard to get and to keep, which will mean anxiety for all of you leaving education for another stage in your career, and hardship for some."

Sir Michael said that education should use this period to consolidate its position and try to give a better service within existing budgets since it would lack resources to expand.

"In the polytechnic field we must concentrate on maintaining standards; we must not make the mistake of starting new courses for which we cannot provide the resources. I think that I can safely speak for the CNAA in saying that we shall not relax standards."

Sir Michael also told students not to be disappointed if they did not find the right job after graduating.

Dr Arthur Suddaby, provost of the City of London Polytechnic, defended the development of the polytechnics over the last decade.

He attacked critics who said that the polytechnics were aping the universities, warning that the polytechnics pursued quite a different role.

Dr Suddaby, who is also vice-chairman of the Committee of Directors of Polytechnics, becomes chairman of the CDP in the spring when Sir Alex Smith, director of Manchester Polytechnic, steps down.

Profile page 7.

Classics lose ground to myth

The classics have lost ground in schools and universities but "classical studies" are in the ascendant. The study of Greek and Roman history, culture and myth has become much more widespread in institutions of higher education in the last five years, according to a Schools Council Curriculum Bulletin.

Many students taking arts courses have not learnt Latin at school—and do not wish to begin Latin or Greek at university—but need some knowledge of Greek and Roman literature and civilization for the successful study of other subjects, the Bulletin says.

As a result 20 universities have introduced foundation courses in classical studies which have proved so attractive that several universities have gone on to offer the subject as a subsidiary to other subjects.

More teachers and combined courses in classical studies will be needed in the next few years, the Bulletin predicts, even though there is doubt in universities about whether a course in classical studies can have sufficient intellectual rigour to constitute even half a final honours syllabus. Doubts stem from classics including neither study of a language for historical study of the kind usual in courses on ancient history.

A further difficulty about teaching classical studies to older pupils and students is that of conveying to those who cannot read the original languages a sufficiently accurate idea of how Greeks and Romans thought and wrote.

The current state of affairs in polytechnics is not easy to assess, the Bulletin says. Many give classical studies an important place in foundation or background studies, but it is not yet clear whether they see a role for it as a main or independent subject.

The case for giving classical studies subject status in colleges of education is now very strong.

At present seven colleges give some place to classical history at BEd level; 33 include some classical studies within history courses; 21 in English; 10 in drama; eight in art; five in dance; and eight in other subjects.

Teaching Classical Studies, Schools Council Curriculum Bulletin 6) Evans/Methuen. Educational report from a working party of Schools Council Classics Committee, chaired by Professor R. A. Cross-land.

Classics books 13-17 TIMES was by Jonathan Sale.

Science will soon know 'all in the mind'

by John Ross

Biologists and psychologists in next century will achieve co understanding and control of h mental processes, Professor Stonier, professor of science society at the University of ford, predicted this week.

In his inaugural lecture Natural History of Humanity: Present and Future" Stonier examined social histo terms of six eras: the palcolithic, neolithic, mechanical and communication forecast the onset of a "cere era in the 21st century.

This era would achieve bi tical organization of a globa munity and would be characte by enormous strides in underst ing, he said. "A convergenc fields will combine to creat accurate models of society and functioning.

"More important, biologists psychologists will be able to use such mysteries of the mind memory, the ability to absor analyse, and synthesise the e process of thinking. Similarly become possible to fathom the de seated emotions, motivations, other feelings which characte the human psyche."

Society, with unprecedent resources of energy, food materials, would be able to con itself with meeting psychic than physical needs.

Medical technology would i crease the human life-span to h dreds or even thousands of yea and population size might have be regulated by systematic suicide, extraterrestrial migrati or "the abolition of bodies".

He expounded on this last co cept: "The new understanding have made possible the creation ultra-intelligent thinking machi and we will see the beginning human brain-computer junctions.

"Such a process could open up the possibility of a communal intelligence which may result in the ultimate diminution or abolishment of bodies as humanity evolves beyond itself to function as the evolutionary interphase between mortal life and immortal *Intelligence*."

Multi-sites cause library breakdown

Multi-site libraries can protect users and students from financial stresses and strains to several degrees, but can lead to management breakdowns. This sombre view is outlined in a Library Association pamphlet by Professor Wilfred Ashworth, of the Polytechnic of Central London.

Management breakdown can come about in two ways, suggests Professor Ashworth. Conflicts between branches and centre can result in branches taking independent action, diverging from central policy and destroying the library's unity.

On the other hand, branches may develop a tendency to send deputations higher up the library organisation in search of someone willing to accept responsibility. This can lead eventually to an "autocratic" form of library government.

There is no complete cure for "multi-site" other than the "dangerous, expensive surgery", says Professor Ashworth. But the disease may be contained in one of two ways: by means of an "organic" system, or a "separate library" system.

The first of these seeks to develop a "common culture", a manner of dealing with people and problems which is the "way" of the organization.

The "separate library" system could be the right one when aspects of a multi-site organization are separated by considerable distance. "Under such conditions there will be little sense of a unified library, the systems chosen will probably vary from centre to centre and wide variations of standard may continue to exist without unsettling because the users will not normally have opportunity, or cause, to make direct comparisons."

Organizing Multi-site Libraries by Professor Wilfred Ashworth, Library Association. Obtainable from Selwyn Eagle, The Library, Middlesex Polytechnic, Queensway, Enfield, Middlesex EN3 4SF, 95p post paid.

Student press

The article on student newspapers entitled "Identikits papers prove against the odds" in last week's

London sociology debate raises new fears

by David Walker,
Social Sciences Correspondent

Research and teaching in sociology in London University outside the London School of Economics were in jeopardy, academic staff claimed this week.

In the wake of the dispute over whether the Social Science Research Council's sociology and social administration committee ought to be split up have come allegations about the "preponderant power" of social administrators in what was formerly the sociology department at Bedford College (now called the social studies and economics department) and the sociology department at Goldsmiths' College.

At least two of London University's sociology chairs are unfilled and there are fears at Bedford and Chelsea Colleges that posts previously held by sociologists will be assigned in future to social administrators and others.

The London School of Economics is not directly involved in the controversy. It already has separate sociology and social science and administration departments, and effectively removed itself from London University degree validation four years ago. Its staff however—as a letter from Professor Donald MacRae on page 22 shows—feel strongly about the issues involved in splitting the two subjects.

The sociology teachers' anxieties are set against a background of declining application from students for straight sociology degrees. Social administration, on the other hand, is flourishing. Professor Bob Pinker, head of the department of sociology and psychology at Chelsea College, for example, is understood to be planning a new social work qualification—a type of course for which there is a large demand.

The dispute centres on the department at Bedford College where sociologists are in a minority. It is planning to set up a "course unit" degree in which sociology would probably take a back seat. At present there is a full sociology honours degree together with a degree in social science and administration.

Under the London University statutes Goldsmiths' College, not being a full school of the university, cannot offer London degrees unless they are examined in another London college such as Bedford. Hence any changes at Bedford have important results for Goldsmiths'.

Mr John Hargreaves from the sociology department at Goldsmiths' who last week wrote in *The THES* claiming there was a powerful "social administration lobby" in the university said he feared the Goldsmiths' sociology degree could be squeezed out within a few years.

The course set up at the college has been changing rapidly in the past four years as sociological options within its social science and administration degree were reorganized, to the chagrin of some members of its staff.

The Bedford College, where social science of any kind is very recent, moves are being made to set up a new social administration degree. The sociology and psychology department there has always contained a mixture of disciplines and its present head, Professor Pinker, is chairman of the social administration Association. Professor Pinker formerly held the Lewisham Chair of social administration at Bedford College while he was head of the department at Goldsmiths'.

Some of the causes of the present unhappiness at Goldsmiths' are understood to lie in the disputes—which neither side denies—between Professor Pinker and a section of the sociology department

Letters 14, 22

Training aid 'surprise'

British industrial and agricultural training aid to underdeveloped countries continued to spread and prosper last year, according to the annual report of the Technical Education and Training Organisation for Overseas Countries.

The organization, a specialist unit of the Ministry of Overseas Development, mounted 72 staff assignments in 48 countries and 49 support assignments in 22 countries during 1974-75. It increased the number of sponsored overseas trainees receiving practical training in United Kingdom industry to nearly 400, and arranged "specially tailored" programmes for 82 trainees from 20 overseas countries.

These developments were surprising, the report suggests, because throughout the year TETOC's future was under review, and all recruitment to established posts was suspended. TETOC's technical education programme overseas virtually ended, for the time being, with the retirement of one of the organization's most senior members. It continued its operations only in the Middle East.

Engineers seek industry links

Industry should have greater control over the content of post-graduate courses in engineering, the Institution of Electrical Engineers has recommended.

In a recent memorandum on the Science Research Council's report *Postgraduate Training*, the IEE said: "We are in favour of encouraging students to return to university to undertake a master's degree or doctorate after having gained industrial experience immediately on graduation.

"This would only be attractive to those employed in industry if industry came to recognize post-graduate study as essential for the career development of an increasing proportion of its employees. This would be more readily achieved if industry were to be given more scope in influencing the type and content of postgraduate courses offered."

It also suggested that experience in industry should be an integral part of PhD courses and that industrial engineers should be encouraged to participate more in the teaching of PhD courses.

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The editor is D. M. Nicol, Koraes Professor of Byzantine and Modern Greek studies in the University of London, and there is an international editorial board.

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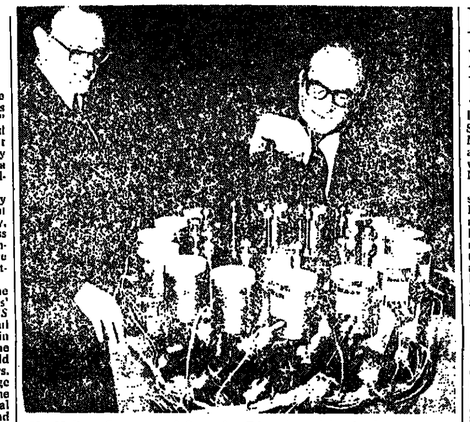

Mr Mulley, Secretary of State for Education, right, is shown a new piece of electronic equipment by Dr D. S. Whitehead, reader in engineering at Cambridge University, during a recent visit to the university's New Cavendish Laboratory.

Government should set up discussion forum—NATFHE

by David Hencke

The Government should establish a national council for further and higher education so that its policies could be properly discussed, the House of Commons committee investigating the Department of Education and Science was told this week.

A delegation from the 63,000-member National Association of Teachers in Further and Higher Education called for a committee representing all interests in higher education.

The delegation was severely critical of the Government's handling of the reorganization of teacher training and its "piecemeal approach" towards further education.

Mr Malcolm Lee, a member of NATFHE's teacher education standing committee, said that Sir William Pile, permanent secretary at the DES, had "grossly misled" the committee over teacher supply numbers when he gave evidence earlier this year.

Mr Derek Weitzel, joint president of NATFHE, said the union was not satisfied with the level of department consultation before policy was implemented.

"A lot of the policies in further education, colleges of education, and adult education would be better implemented if there was a national forum which could debate them", he said.

The union's case was strengthened in its written evidence. "The DES has always been willing to listen to the views of professional trade unions on policies. But it has rarely had a dialogue with the teachers' organizations before its views were made public as policy, or were at a White Paper stage of policy making. At that late stage any changes that are likely to be effective are at the margin and not matters of substance.

Mr Lee and Dr Kenneth Baird, acting higher education officer of NATFHE, were critical of the Department's handling of teacher education reorganization.

Mr Lee said that teacher educators were unhappy with the whole reorganization of the colleges.

He accused Sir William Pile of "grossly misleading" the committee in his evidence that the first figure suggested by the Department was 60,000 instead of the then 114,000 teacher training places.

Mr Baird was more cautious. He defended the role of the former Association of Teachers in Colleges and Departments of Education in keeping its members informed.

● NATFHE is expected to put forward a pay claim of £6 a week for all its 63,000 members who earn less than £8,500 a year. The claim, which still has to be ratified by the teacher education standing committee, is within the Government's voluntary pay code.

Scots students stand firm on devolution

University principals must be forced into a debate on devolution, Mr Stewart McIntosh, NUS Scottish chairman, told the union's Scottish conference last weekend.

The principals opposed devolution on vague, general grounds, he said. Students had to get them out of their ivory towers and force them into debate. He challenged anyone to produce a good argument against university devolution.

The conference reaffirmed NUS policy that devolution should give the Scottish people "unfettered authority to decide their political future on matters of direct concern to Scotland and the financial means to carry out their political decisions.

The NUS wants the assembly to have more economic powers than the White Paper proposes, and they want universities devolved. University devolution, they argue, would provide an opportunity for a review of further and higher education in Scotland.

The question was dealt with both in debate and in a plenary discussion session. Delegates had a brief-lek paper by John Reid, the vice-chairman of NUS (Scotland), and a draft response from the NUS executive to the White Paper.

An effort to get NUS Scotland to state clearly its opposition to the SNP's "separatist" policy was defeated.—*PESS*

Medics oppose renewed Rhodesia links

by Frances Hill

Students at Birmingham University's Medical School have voted to oppose a Senate proposal to renew links with the Godfrey Huggins School of Medicine in Rhodesia.

Formal ties with the medical school were severed in 1970, after Birmingham students had protested against the connection. Under the link Godfrey Huggins students recieved Birmingham degrees, and those "still in the pipeline" were allowed to finish these degrees. The last students covered by this agreement are due to qualify in the spring.

The Senate's proposal, which follows a visit to the Rhodesian medical school by Professor Brodie Hughes, dean of medicine, recommends that there should be staff exchanges between the universities that Birmingham should send external examiners to Godfrey Huggins, and that some Birmingham students should spend six-week periods there.

Birmingham's medical faculty is to consider the proposal on Monday. At a meeting of the students' medical society on Tuesday 56 students voted in favour of a motion stating that links with the Rhodesian medical school should be resumed only when majority rule is achieved in Rhodesia.

The motion claims that Godfrey Huggins has not implemented a "fully multi-racial" policy. Twenty-two students opposed the motion.

Mr Les Goldman, the medical student who proposed the motion, said he could not predict whether any student action would be taken if the medical school decided to renew links. "We will have to see what happens at the medical faculty meeting on Monday."

'No propaganda' in student newspaper

National Student, a 100,000 circulation newspaper distributed free to students at universities, colleges and polytechnics, was launched by the National Union of Students on Monday.

The paper aims to be the first national student publication which will not make a loss. It will be published termly at first and more frequently if it can attract enough advertisers.

Mr Francis Beckett, aged 30, the paper's first editor, said the aim was to "bridge the chasms" between various student unions and allow the national union to communicate directly with its members.

"It will be an independent newspaper and not pursue policies of any group within NUS. It will not print propaganda or long theoretical diatribes", he added.

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Cambridge academics answer attacks on 'useless' research in arts

by Alan Munton

Senior Cambridge academics have defended postgraduate research in the arts against attacks from MPs who described such work as not being "useful".

In evidence submitted to the University Grants Committee, they say that the recommendations of the parliamentary report of the Expenditure Committee on postgraduate education, which appeared in 1974, were "a matter of serious concern" to the arts faculties in Cambridge.

"Most graduate studies in arts subjects would disappear if the recommendations were implemented", the academics told the arts subcommittee of the UGC during its recent visit to Cambridge.

In their report the MPs recommended that non-vocational postgraduate research should be discouraged, and that vocational courses leading to entry to a career should be promoted.

Postgraduate research by students without career experience should be considerably reduced, there should be a stress on vocational courses, and the UGC should ensure that an increasing proportion of postgradutes already had career experience before beginning their research.

In a vigorous defence of the value of postgraduate research the art academics, who included professors, heads of departments and chairmen of faculties, say that arts research is useful, though its importance may not be immediately apparent.

They told the UGC that "training in research is an important educational process and must not be regarded simply in terms of vocational training. Research is intimately bound up with teaching and a faculty or department which does not produce worthwhile research is unlikely to excel in teaching."

The submission continues: "A considerable part of the research in arts subjects has a 'useful' value even though it may not be immediately obvious. It is essential for the community that research of this kind should be carried out because it contributes to the creation and criticism of standards and to the judgement of ideas in personally and socially worthwhile".

In a separate statement, Professor Raymond Williams, former chairman of the English faculty, says that some reduction in the numbers of graduate students had already taken place, and that any further reduction would have damaging long-term effects on the general teaching of the subject, both within Cambridge and nationally.

● The threat by 17 teachers in the English faculty at Cambridge University to refuse to examine in 1977 unless there is an improvement in the conditions of college teaching of the subject has led to a proposal to set up a committee which would examine the problem throughout the university.

Several large departments are faced by the problem of too many students and too few available or qualified teachers to conduct small group tuition. English is at present worst affected, but history and French are other subjects in which an unfavourable staff-student ratio is likely to lend to difficulties.

This is acknowledged in submissions made recently to the University Grants Committee by senior academic staff in arts subjects.

Medium-sized faculties are also facing difficulties in some areas of their teaching. The arts sub-committee of the UGC was told that strain could be avoided if they could be allowed an increase in their teaching staff, or if some way could be found to limit the number of their students.

The current difficulties in arts faculties at Cambridge have been increased by a doubling of the number of women students since 1963.

John Holloway page 11

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Government 'policy of lunacy' on closure of colleges

by Jane Feinmann

The Government no longer has a philosophy of educational cuts, but openly admits it is solely a matter of economics, according to Sue Slipman, secretary of the National Union of Students.

She was speaking at a rally organized by the University of London Institute of Education Students Association last Friday as part of the NUS national day of protest against cuts in educational spending and in particular against the planned closure in 1978 of three London colleges of education.

Miss Slipman said that the next Government educational expenditure report was likely to announce the closure of 20 more colleges. This time it would not even officially be due to the falling birthrate but because the colleges had under 400 students.

She said that many local education authorities were going to cut their budget. For instance, Surrey l.e.a. was planning to cut its educational budget by £2,500,000 by cutting back on school building and maintenance, nursery and remedial education, and closing teachers' centres and libraries.

This would create a cycle of deprivation which would result in a lowered demand for higher and further education. The Government would then use this drop in demand as an argument for cutting back on higher education, just as it was now closing colleges of education because they did not have enough students.

Government policy was resulting in a reversal of the principle, now long established, that all those qualified should be able to participate in higher education. "Now we are beginning to see the rebirth of the argument that only those who are financially eligible will qualify", she said.

Mr Roger Jenkinson, of the newly formed National Association for Teachers in Further and Higher Education, said that it was most likely that NATFHE, which was formed last month, would take a strong line on cuts in educational spending.

Of the two former unions which had joined forces, the Association of Teachers in Technical Colleges and the Departments of Education had long recognized the need for the cuts and staff redundancies, while the Association of Teachers in Technical Institutions had always been opposed to them.

"I suspect that NATFHE's line will be that the cuts must be fought although it is too early for that to have been officially formulated".

Mr Jenkinson stressed the need for solidarity among educational unions and with the TUC. "We want to fight the cuts, we must be ready for a long hard struggle and we must exercise some muscle. So we must look not just to students and teachers but also to the local industrial working class for support", he said.

The National Union of Students are organizing a national demonstration to protest against the cuts and lobby MPs in London on February 27.

NUS protester.

£17m ILEA post-school budget boost

The Inner London Education Authority is planning to spend £17m more on further and higher education in 1976/77 than in the current year, it was announced this week.

Most of the increase is absorbed by inflation, but more money is to be spent on the 16-19 age group and the careers service.

Sir Ashley Bramall, leader of the authority, said this week: "These are two crucial areas in view of the unemployment among young people and we feel it is right to provide extra resources."

An extra £365,000 will be spent on the 16-19 age group and £25,000 on the careers service, he said.

But at the same time an increase in fees for higher and further education is planned. The percentage increase is not yet decided, but the amount expected from the rise is about £3m, together with money from a rise in school meal prices.

Other areas affected include the administrative staff of the authority, which will be reduced by 58 from 1,600 and the ILEA television service, whose budget is being cut by £271,000.

While the authority is not budgeting for growth, its expenditure for 1976/77 is expected to increase to £413m from £370m the year before. This means an increase to the London ratepayer of four pence to 381 pence in the pound, a rise of 11.5 per cent over the present rate.

Mr Mervyn Scorgie, opposition spokesman for finance, attacked the budget proposals this week for being "financially irresponsible".

Much bigger reductions should be made to keep down the rates, he said.

'Urgent' 16-plus plan attacked

The Schools Council's plan for a common 16-plus examination to replace the General Certificate of Education and Certificate of Secondary Education are attacked in a recent edition of *The Cambridge Review*.

None of the reasons advanced for this change fit any way literally the urgency with which they want to see their radical proposals implemented, the article says.

The Schools Council's report on the new examining produces no facts to support its argument that the overlap of two systems results in a waste of resources, it says.

It concludes that the proposals are even more expensive in egalitarian terms than ideally preferable, but using the less favourable ideal as a guide would be incompatible with egalitarianism. Not to acknowledge this constantly subverts the report's professed concern for measuring candidates' attainment, it says.

'Get jobless into study' call

by Frances Hill

Adult education centres do not have a significant number of unemployed people among their students, according to Mr David Head, tutor in community studies at the City Literary Institute, London.

Writing in the latest issue of *Adult Education*, he says that one practical difficulty in attracting the unemployed is that employment exchanges cannot advertise adult classes taking place during the day, since that is when people are supposed to be looking for and available for work.

Mr Head suggests that adult educators should prepare special leaflets advertising evening classes only to be displayed in exchanges. But he adds that day provision could be a "boon to many", since it is when others are working that jobless people feel most isolated, distressed and useless.

This provision could perhaps most usefully take the form of less formal workshops.

Adult education should look at ways of making learning experiences central to the needs of the unemployed, Mr Head suggests. Adult centres should discover what work is available in their neighbourhood, perhaps becoming — as the Kensington Institute did four years ago — more concerned with action/research than with the traditional course pattern.

The Kensington Institute explored a study group on local employment to look critically at the effects of industrial and local planning, bringing employers, planners, local politicians together to encouraging initiatives for new industry in the area.

This initiative led to the setting up of a six-week course for unemployed in cooperation with Hammersmith employment exchange and the Addison Institute.

The course aimed at providing unemployed people with moral support, shared experience, information, contact with knowledgeable people, and a glimpse of the adult education centre in action.

The meetings took the form of mutual counselling on job-seeking, retraining and benefits, the economic and educational issues of unemployment.

The course came to an end after six weeks as planned. Although new members had joined during that time the group had not developed "a life of its own".

Several members had "picked up a useful line of action" and moved on", showing that "to be successful the group was designed to help people eager to find a particular kind of work, its success was its decease."

University's cancer advance

A major advance in cancer research was announced this week by Newcastle University. A team there has overcome the problem of storing human cancer cells in the laboratory, enabling investigations into ways of increasing resistance to the disease.

"There is evidence that cancer patients may produce antibodies in their blood which can destroy cancer cells. The strength of this reaction may be affected by the patient's age, by drugs and by surgery. Methods of treatment could be improved if it were known how the patient resists the cells", it says.

One obstacle has been the short life span of cancer cells outside the body, but a team headed by Professor John Owen, head of the department of anatomy at Newcastle University, has developed methods of growing cancer cells and storing them at low temperatures.

Professor Owen said this week that cancer cells will keep indefinitely when frozen. Over the past two years his team has built up a bank of more than 50 different types of cancer cell using this method.

The cells, derived from fluid which sometimes accumulates in cancer patients, continue to grow when taken out of deep freeze.

The Newcastle team is now using blood samples from cancer patients and using cells from the same to measure the level of reactive antibodies in the blood.

Don's diary

Saturday

Go into the university for 2½ hours or so to catch up on the journals in the reading room. This has to be done religiously once a week, or the load becomes too intimidating. When that happens I find myself skipping rapidly through the index of each journal in turn, hoping there will be nothing I should read. I often find myself being less than honest when deciding whether a paper should be read or not, thus making nonsense of the whole process.

At about 5 pm, I, my wife, and two friends set off for London in their car to see the RSC's production of *Henry IV, part II*. The same group of us saw part I at Stratford last summer.

Sunday

A lazy morning; I wake late and get up late after our return in the small hours. We enjoyed the play. For me, both productions have reestablished plays which I was beginning to think were not as important as is sometimes argued. I suspect this arises because of Brewster Mason's merciful restraint as Falstaff, not much liked by the Stratford critics as I recall, and Emrys James's human, fretting, loving father of a king. Together, of course, with the excellent Alan Howard as Hal and the general evenness of the playing.

I am currently involved in an embryonic collaboration with a colleague from molecular sciences. Lack of financial support has meant that the collaboration so far is rather lopsided—I borrow his terminable dye-laser when, and if, I can. The uncertainties, complexities and irrationalities of experimental research mean that it is uncertain until the last moment whether we shall get the dye-laser, and my apparatus is forever being put into a *state when it is* ready to work *as soon as* the laser is installed, then being switched off because the laser cannot come.

A good deal of experimental research is like that, even when borrowing from colleagues is not involved. Apart from which, my research over the past couple of years or so has been a living memorial to the old Hindu proverb; "When your crops have failed, your chickens have died from fowl pest and your neighbour is known to be having congress with your wife, Vishnu says there is no reason why your house should not catch fire."

At minimal notice the laser finally arrived in my laboratory late Friday afternoon. As might have been predicted, I have to be away next Friday and Saturday, and we shall have to cram as much running time as we can into the period between.

Monday

Help install the tunable dye-laser, then give a third year option lecture to a class of almost vanishingly small proportions.

Spend all afternoon in the second year optics laboratory. There is little to do; the students cope well, and the afternoon seems very long. I make two or three quick trips to my own laboratory to check progress. It looks as if a real start can be made tomorrow. Pumps and filling systems are arranged to run all night, and we escape to dinner.

Tuesday

The day begins with the ninth and final lectures of a postgraduate course. Postgraduates attend two basic courses, one on quantum mechanics and the other, in the case of my students, on atomic physics. They also attend a minimum of five courses on more specific topics, each of eight lectures. I have given this course at the rate of four lectures a week to clear the way for my own research; I think this intensive approach suits the students as well; we get involved with the problems in hand and no time is wasted picking up threads inevitably. I have overrun just when I could have used the time.

Then off to a meeting of the Gardner committee executive, thinly disguised as the chairman of the theatre directorate. The programme of the Gardner Arts Centre is organized by three directorates — theatre, music and visual arts—in collaboration with a full-time professional administrator. I do not really approve of this structure, believing it to be a poor substitute for an artistic director of imagination and style. It is a long meeting dominated by financial gloom but enlivened by an up-and-downer about staff changes. A quick sandwich and, at last, into my lab for a full afternoon on the experiment.

It is, I suppose, an essential part of love that the lover feel compelled to speak and write of his paramour. Consequently, I was delighted when I found that Millwall, one of the great loves of my life, were playing at Brighton during my diary week and that the cherished name could be introduced without artificiality. Pat Rivett, professor of operational research, recently sent me a reprint of one of his papers entitled "The Structure of League Football" (Opl. Res. Q. 26, 801, 1975) in which he had managed to insert the masterly sentence: "If the eager football fan could dematerialize himself in science fiction fashion and arrive painlessly on the touch line of any Football League club in the country, then it is likely that we would all finish up at Liverpool, Everton, Manchester United, Leeds and Millwall". How can I improve on that?

After a quick meal I drive from Lewes to see the match. The best team lose 1—0 and I drive home gloomy and mildly bad-tempered. Post-footballium triste, I suppose; that's love for you.

Wednesday

A full day in my lab working on research; not a weekly occurrence by any means. A good day as it turns out, but some aspects of it not uncharacteristic of experimental physics research. Virtually all morning is spent making two pieces of the apparatus work properly even though both had been tested and used previously. We have a full afternoon's run with everything working well. Within minutes a design fault becomes apparent. This is good. This is the first serious run on this apparatus, and among other things we hope to find out what modifications are needed.

By early evening we close everything down and plan tomorrow's programme. We think we may have part of what we want. Tomorrow's run should clinch it one way or the other. If we have got the information we need we shall stop, make various changes to the apparatus and "run" again as soon as possible. It may take a week to make the changes. Experimental research is a slow, time consuming business.

Steal a few moments in the SCR at lunch time to read the reports of last night's match in the newspapers. In spite of Herculean efforts by individual presidents to create some life and activity, our SCR must be the emptiest and quietest in the land. I think it stems from the earliest days of the university when there were meant to be no divisions between faculty and students and the SCR concept was anathema. Inevitably an SCR evolved but in a restricted space and without any character—and it seems duller as times goes on. We suffer possibly from a too narrow age range among faculty—no young and no old. I heard it suggested recently that the problem is not simply age but that there is a lack of eccentrics and everyone is too reasonable and balanced.

Thursday

Begin the day with another third-year option lecture. Think for a moment the class has now completely vanished, but it is merely late. Back to lab for most of the day. All goes well, and it's been an unusually useful 2½ days. Meanwhile all kinds of paperwork has piled up on my desk but it will have to wait awhile.

The evening is spent at Priory School talking to the teachers who take my elder son. We all queue at each desk in turn; half of those queueing seem to be colleagues.

Friday

Leave Lewes on the 10.25 am to Victoria heading for the Rutherford Laboratory, Didcot. The Science Research Council recently announced that they would provide nearly £6m over the next six years to fund a "high power laser facility". I knew nothing of the project until I was in the United States in the summer of 1974 when people to whom it appeared to be common knowledge asked my opinion about what was planned.

I heard no more until getting an invitation, at 36 hours' notice, to attend a meeting at the Rutherford Laboratory last spring. At that time it was planned that a project on laser compression would be funded equally by UKAEA and the SRC. Some of the experiments would be classified and the facility stationed in security terms "behind the wire". This, and the knowledge that the US spend $40m per annum on laser fusion, and $600m on laser research in general (*Time*, January 8, 1976), and that a recent article in *Science* says the US programme on fusion is really for bomb research, gives one food for thought.

In October, the Royal Society held a one-day meeting on the so-called "central laser facility". Somewhere along the line the collaboration with the Atomic Energy Authority had disappeared, although the scientific case published by the SRC had not changed to reflect this in any way.

Large numbers were present at this meeting and it was good to see from the questions that many did not accept that the SRC was funding what a "concensus" of laser physicists wanted. It became clear, too, that the suggestions made at this and the earlier meeting about other projects that might be incorporated were entirely notional, however much they appeared to be welcomed. The available money was to carry out work on laser compression; period.

Under some pressure now, Professor Sir Sam Edwards said that if other laser physicists wanted the SRC to fund a central facility to do something else it was up to them to make the case. The meeting today and tomorrow morning is to "discover the needs of the university community in this respect". What a pity the SRC did not think it proper to hold a wide ranging open discussion among all laser physicists before it committed itself to one specific project; particularly one supposed to be a "national facility".

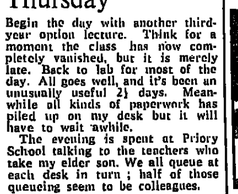
My golden rule is always to use the opportunity when an official trip takes me to London. So, I shall see the Thracian treasures at the British Museum on the way back from Didcot on Saturday afternoon, and in the evening complete the RSC trilogy by seeing *Henry V*. Here we go again.

Les Allen

The author is Reader in Experimental Physics at the University of Sussex.

Millwall. "post-footballium triste"

Mr Walker's mistake on environment



ERIC ASHBY

"Having sabotaged our prospects of a better environment, the British Government is about to sabotage the efforts of Europe." So, according to *The Times*, said Mr Peter Walker, formerly Secretary of State for the Environment.

The occasion for this surprising remark was the disclosure that Britain could not accept without amendment a proposal from the EEC commission on "the reduction of pollution caused by certain dangerous substances discharged into the aquatic environment of the Community".

Members of Her Majesty's Opposition are in duty bound to criticize, not to say denigrate, the efforts of the Government. And citizens of Her Majesty's realm are in duty bound, too, to expose this criticism if they think it is ill founded, not to say deceptive. Hence the following paragraphs.

The heads of state of the European Community, meeting in Paris in October 1972, issued the following splendid statement: "As befits the genius of Europe, particular attention will be given to intangible values and to protecting the environment".

They invited the Community to prepare a programme to turn these fine words into action, which the Community duly did, embodying its ideas in a 53-page declaration, published in December, 1973. This is the basis of the EEC's environmental policy. When Britain entered the Community she became bound by this policy.

Member countries undertake to ensure protection of the biosphere, to maintain a satisfactory ecological balance, to improve the quality of life "at the lowest cost to the Community", to abate pollution at a level "that befits the type of pollution and the geographical zone to be protected", and to embark on a vigorous campaign of education to make the citizens of the Community aware of their responsibilities towards the environment.

Britain had already undertaken all these responsibilities and she entered the Community with a pretty good record of achievement in all of them (except, arguably, the last: education).

So far, so good. Then the Commission got to work to issue, as planned, draft directives about some of the specific measures to be taken for the abatement of specific pollutants; and this is when the trouble began.

Broadly there are two strategies for controlling the discharge of wastes into the environment. One strategy is to set rigid obligatory limits to the amount of pollutant discharged from the sewer or the chimney (known as effluent or emission standards); the other is to set quality objectives for the water or air into which the wastes are discharged.

Politically, effluent and emission standards are an attractive proposition. It is tidy and simple to decree that suspended solids in the effluent from wood pulp mills must not exceed 50 kilos per tonne of product, whether the sewer discharges into the Rhine or the Mediterranean or the Atlantic Ocean. But scientifically it is nonsense, for it ignores the vast differences in dispersion and dilution of the effluent: what might be a calamitous contamination in the Rhine would be likely to have no perceptible effect whatever upon the Atlantic Ocean.

Scientifically, quality objectives are the better strategy. On one hand they comply with the EEC's intention to protect the environment; on the other hand they leave it to the member countries to do this in the most economical way (to quote the declaration again) "that befits the type of pollution and the geographical zone to be protected".

But politically (in the context of Common Market politics) a strategy of defining quality objectives is not so attractive, for it enables the wood pulp mill in Scotland to spend less on its effluent than the mill on the Rhine; and this (pleads the Commission) would constitute a "distortion of trade".

The EEC Declaration has nothing to say about *how* the environment is to be protected, ie, about which of those two strategies is to be used. But the Commission set out to impose, for effluents into rivers and the sea, blanket uniform standards to effect what was called "harmonization" of practice from the Orkneys to Sicily.

In other words, although the purpose is to control the quality of the environment, member countries were to be obliged to do so by adopting uniform effluent standards without regard to the capacity of the environment to cope with the wastes put into it. Draft directives on these lines were issued for water quality, drinking water, bathing beaches, wood pulp, and titanium dioxide production. For Britain to acquiesce in the imposition of blanket standards for these items would have been in the first place to ignore all the scientific evidence which makes nonsense of such standards. In the second place it would have loaded a monstrous cost upon Britain (hundreds of millions of pounds); money which could be deployed far more effectively by concentrating it upon the remaining genuine danger areas in the British environment.

The British representatives tried to persuade the Commission of the efficacy of the pragmatic case-by-case procedures for abating pollution in Britain.

But the Commission stubbornly refused to budge, and returned to the attack by claiming that its purpose was also to prevent distortion of trade; a phoney argument for, if this is to be the principle, it should apply also to the "harmonization" of wage rates, transport costs, raw material costs, and all the rest of the economic ingredients of industry.

The matter come to a head over a directive proposing to limit rigidly, if not to exclude altogether, the release of a so-called "black list" of dangerous substances into any water anywhere in the Community.

The black list comprised eight categories: organic compounds or halogens (such as DDT) or phosphorus or tin; mercury; cadmium; persistent mineral oils; carcinogenic substances (unspecified); and "persistent synthetic substances which may float". To watch carefully for any undue release of these substances; to monitor possible danger spots where some of them might be released; to impose, through the consent which have to be given by Regional Water Authorities, constraints and if necessary prohibitions against the release of such substances (and others not on the black list): all this is already being done, even though imperfectly, and every year sees some improvement in control.

But to spend what would undoubtedly be a vast sum and effort to eliminate discharges of all the black list substances, when there is no evidence that they are accumulating in the environment or are putting the health of men, creatures, or plants at risk, and to do so at the expense of substances not on the EEC's black list (such as lead) where there really is need for better pollution control; that would be a gross and irresponsible disservice to the environment, to the quality of life of British people, and (a matter which should be of some concern to Mr Peter Walker) to British industry.

Luckily, this consideration which led the British Government to challenge the obstinate policy of the EEC Commission in its insistence that the European environment must be protected by the use of blanket effluent standards and not by the setting of agreed environmental quality objectives which each member country achieves in its own way.

And over the notorious black list of substances, the Council of Ministers has conceded the British case. By a decision made on December 6, 1975, member states may now choose to exercise control through quality objectives (to be regularly policed) or through fixed effluent standards.

The overall result will be a better deployment throughout Europe of the limited funds available to protect the environment. This is what Mr Peter Walker called "sabotage".

Lord Ashby was chairman of the Royal Commission on Environmental Pollution.

An Oxford marriage of law and social science despite suspicion and doubt

Marrying social science and the law, an ambition enshrined in the Oxford Centre for Socio-Legal Studies set up by the Social Science Research Council four years ago, promises conjugal strife.

The courts have always cast a baleful eye on social scientific "expert witnesses" and their maxim of *toute comprendre*. Sociologists and psychologists in the eyes of judges and counsel are often seen as no better than apologists for individual guilt, or as in the recent case of Linda Lovelace, agents of moral degeneracy.

Even worse social science threatens to strip away the mystique of the law itself. Although one to their own kind, the lawyer Michael Zander of the London School of Economics, recently committed the pioneering offence of applying a rough cost and benefit account to barristers' work.

Despite suspicions, British lawyers and social scientists have come together in recent years, several generations behind the Americans, to explore common ground.

The aim of the courses is mutual exploration, not in the science of law itself, jurisprudence, but of how the law actually works.

The centre's plan is for social scientists and academic lawyers to do original work in major areas, notably on what the lawyers define as "misfortune". Legal claims for damages involve financial transactions and bargaining, and the centre's economists have been able to make a useful contribution to understanding compensation.

For example, a small project was started last year on how much risk was involved in making a claim for damages. Two economists from the centre found that in most cases individuals were seeking damages from an insurance company likely to be rich, powerful and able to retain good lawyers.

The tendency was for claims to be settled out of court and it was found that such settlements were generally for smaller amounts than would have been awarded in court. It is a finding of obvious interest to practising lawyers but intellectually respectable enough to grace the pages of the *Economic Journal*.

Mr Donald Harris, director of the centre and a lawyer from Balliol College (the SSRC are about to appoint a co-director with a social science background) says: "The point of a centre like this is to set about the task of collaboration full-time. Otherwise it would be intermittent."

The centre's claims are modest: it does not attempt to train a new academic breed. Nevertheless Mr Harris and his staff hope it will demonstrate to fellow academics the fruitfulness cross-disciplinary inquiry.

"We are aiming primarily at an academic audience but we hope our work could lay the basis of social policy for the future", he says.

It is early days and most academic lawyers and social scientists outside Oxford would probably agree that the relative lack of publications from the centre will be remedied in time, as their research projects get written up.

Inevitably for the bulk of lawyers and social scientists the centre is a marginal enterprise but this could change if it fulfils one of its functions as laid down by the SSRC—training research students as socio-legal specialists.

Mr Harris says: "Our research officers will go on to university posts and no doubt make research in this area one of their interests. Gradually our research students will be appointed to posts within the traditional faculties and disciplines but their teaching might reflect this wider interest."

The centre's major project is a study of the social, legal and economic consequences of illness, injury and handicap and how they are connected.

A specialist social research organization has been sub-contracted to gather raw data from sample households. It has consulted the SSRC's Survey Unit for advice on framing questions.

This major survey is buttressed by others including a survey of victims of accidents in the home in one particular area.

Project has been allowed to "grow" naturally into project so that the misfortune study has given rise to studies of the help given to victims of accidents outside the formal "helping" bodies like social services departments by relatives and friends.

Another cluster of projects is in the area of family law. Studies are going on into the characteristics of people who get divorced and the role of county court and district registrars in the proceedings. The latter project proves an interesting example of lawyer-social scientist collaboration.

Interviews with a sample of registrars were conducted by a solicitor—a fact which probably made them, as legal officials, more forthcoming but the results are being analysed principally by Miss Susan Rukes, one of the centre's research officers, who was trained in social administration.

Elsewhere in the centre, which occupies a rather crowded set of rooms in Wolfson College, other projects have sprung up, rather, it was admitted, due to the coming and going of particular research staff. Centre life was adversely affected by the departure of Professor Oliver McGregor, its first director and a pioneer in the field, for the chairmanship of the Royal Commission on the Press.

Professor McGregor was part time, an arrangement not altogether satisfactory for the smooth running of a large research centre with nearly 20 staff.

The eclectic nature of the centre's studies is shown in the off-beat but interesting work starting in the application of psychology to the law.

For many academics the fact that the centre was located at Oxford means a lot in academic prestige.

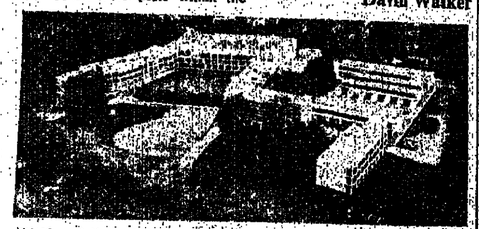
Some not unsympathetic observers of the centre have suggested that Oxford could have its disadvantages, however. Firstly it is not London, where the legal action is. The Oxford atmosphere, too, could, it is feared, draw the centre away from vitally needed empirical research into how the law works.

But it is to the credit of Mr Harris and his staff that the centre has avoided any taint of Iconoclasm. The researchers have had on occasion to remove algebra and graphs from papers they submitted to legal journals for publication, but by and large the balance in the centre between lawyers and social scientists has been finely kept. Mr Harris says the centre accords parity of esteem, letting neither side get dominant.

The centre has still to prove itself, however, both in the eyes of the lawyers and the wider academic community, but as yet it keeps a fund of goodwill and expectation.

The signs are that when the centre's lavish research programme results in major publications the academic world will not be disappointed, but the chairman of the bar will probably be able to absorb peacefully in his bed too.

David Walker



Wolfson College, Oxford: home of the socio-legal centre.

Slow birthday progress greets model conditions of service

A year has now passed since the former Association of Teachers in Technical Institutions secured for its members an agreement on model conditions of service with the Council for Local Education Authorities. But so far local agreements have been ratified with only 44 out of 87 authorities replying to a recent questionnaire. The other 43 are still negotiating.

Progress has been slow for two reasons: the agreement coincided with cuts in local authority spending and with the Government's £6 wage limit.

Much of the agreement is not costly to implement. It aims to safeguard teachers' working conditions, specifying the length of the teaching year, number of class contact hours and the basis of payment for overtime. The maximum length of time a teacher should be required to work is 36 teaching weeks within a maximum 38-week working year. No period of teaching should be longer than 14 consecutive weeks and hours of duty a week should not exceed 30. Class contact hours should be agreed within a specified range:

Lecturer 1 ..	.. 20 to 22 hours
Lecturer 2 ..	.. 17 to 20 hours
Senior lecturer	.. 15 to 18 hours
Principal lecturer	.. 13 to 16 hours

The basis of payment for overtime is stated as the rate for any part-time teacher appointed to the class.

It is such aspects as remission hours, however, which are awarded to teachers in place of extra teaching duties that have slowed up negotiations.

The effect of the Government's pay policy, as stated in a recent editorial of the *Technical Journal*, is: "Government and TUC policy require that with effect from August 1, 1975, any improvements in non-wage benefits should be costed and an appropriate deduction made from the £6".

It goes on: "It is difficult to see how this could be implemented effectively as long as conditions of service are local and separate from national salary negotiations. Any attempt to achieve this off-setting will lead to chaos in the calculation of salary entitlements next April.

While the ATTI gradually came round to supporting the wage limit, it did not think that conditions of service benefits should be costed against any wage increase.

Mr Peter Dawson, negotiating secretary of the National Association of Teachers in Further and Higher Education and former ATTI official, said: "Our members' attitude is that it would not be just if the agreement on conditions of service, which we fought for, should be delayed because the £6 wage limit has come at the same time, or costed against it."

While adopting this stance, the association's policy on negotiating machinery for pay and conditions is that the two, at present separate, should be brought together. This rather gives its critics the ammunition for saying that the association wants it both ways.

Salaries for the further education sector are currently negotiated through the Burnham committee, which has both its methods and composition rigorously laid down. Conditions of service are negotiated by the same bodies as are on Burnham—the teachers' organizations and local authorities—but not within the Burnham statutory framework, so the whole operation is more informal.

The fundamental difference however is that the Department of Education and Science is directly involved in Burnham, whereas it can only indirectly influence the conditions of service negotiations.

While the ATTI had been pressing since 1970 to have the two areas negotiated together, it wants any negotiating machinery to be quite apart from the DES: a kind of "neutral" forum. "The presence of the Government on the management side is not helpful", Mr Dawson said; "Clearly it has an interest, but we ought to be able to negotiate directly with our employers."

Such a forum would mean revoking the Teachers' Remuneration Act, which lays down the present Burnham machinery, he said. But other unions, such as the National Association for Local Government officers, do not have any such Act determining their pay negotiations, he added.

In the meantime, the union, wary of local authorities trying to hold up agreements on conditions of service because of lack of money, urged local liaison officers (who oversee branches in an area) to secure some sort of agreement for those aspects which would cost money, and to leave aside the question of remission hours until money was about.

Local authorities have been full over this. At Devon, for instance, where agreement has been reached, difficulties are getting information from eight or so colleges in the area to current practices.

What is involved is a tightening up among existing practices, acceptable agreement as far as possible to the national one, so lecturers are slightly worse off as regards teaching hours than before, some slightly better. Mr Peter Knight, Devon liaison officer secretary, said the local teachers had agreed to raise all round the best arrangement which was more money.

Another difficulty he pointed out was the old issue of professional status which had been one of the objections to proposed conditions of service agreement. Mr Knight said that teachers in Devonshire had been held back by them because in the event what was existing practice at the time had been included as hours a lecturer could be required to work.

The question of professional status was first raised by the Association of Polytechnic Teachers and polytechnic directors, who argued that a conditions of service agreement would be restrictive and impinge on the professional judgement of teaching which was to work out the job required. These fears have been allayed to some extent by the preamble to the agreement, which says that conditions of service are only a model; that any more favourable existing agreement should be safeguarded and that the professional job of a teacher cannot be encompassed within a rigid framework of prescribed duties, hours or conditions.

This preamble made the agreement favourable also to members of the former Association of Teachers in Colleges and Departments of Education, with whom the ATTI is now negotiating. The new amalgamated union, NATFHE, has been formed recently to have a policy on management, and so what effect the merger will have on current negotiations remains to be seen.

Frances Gibb

Ten years on Cambridge takes audio visual unit to its ancient bosom

Ten years after the Brynmor Jones report recommended setting up central services units in universities, Cambridge has given full recognition to its audio-visual unit as a university institution.

This low-key approach to the development of a central service is due to the university's original policy of decentralization. At the time of the report, several departments, notably engineering, zoology, anatomy, linguistics and education, had already successfully established their own audio-visual facilities.

It was felt, therefore, that only a modest central service was needed for those departments with small or occasional requirements.

In 1968, under the recommendations of a committee of the General Board, space was allocated in the engineering department and a £10,000 grant for equipment provided.

However, no staff was appointed until 1970 when a technical assistant was put in charge of maintaining and moving equipment around. Now the unit employs two additional assistants and a technical officer.

The unit's operations have gradually extended to the day-to-day running of the Babbage lecture theatre and the servicing of 28 university departments.

Their staff gives advice and instruction on how to operate equipment; advice on the design of lecture theatres within departments of the university; and providing facilities for private instruction where a lecturer wishes to show a film to his students.

It also includes photography and illustration work for those departments which do not have the facilities; filming and tape/slide synchronizing being carried out by various research teams and producing films for teaching programmes similar to those of the Open University.

Recently because of the expansion of these activities, Cambridge decided that the unit ought to be given new status and direction to bring it into line with other services institutions. The unit is now located in seperate accommodation on the New Museums site and has been given an annual £2,000 grant for small equipment items.

As a result it will be administered by a committee of management of the Audio-Visual Aids Unit whose membership gives some representation to the unit's users. The committee is responsible for the planning, organization and supervision of the unit's work, administration of funds and general oversight of developments in audio-visual aids throughout the university.

Another important change has been the appointment of a director, Mr. A. F. Brookes, a lecturer in engineering, who has contributed a great deal to the unit's development.

However, the university's decision has not satisfied all Cambridge academics. Dr F. A. Monro, a lecturer in anatomy who uses audio-visual aids extensively in his teaching, claimed that the unit, through no fault of its own, could not cope with the needs of the university because it lacked both adequate facilities and staff.

"This recognition is nothing more than an acknowledgment of a situation which has existed for five years", he said. "What we need at Cambridge is an audio-visual unit on the lines of those of Manchester and Birmingham."

He added that, as a member of an inter-university council, he was able to obtain more help from outside the university than within.

Dr Monro's complaints are not directed solely against the university which, he recognizes, has financial problems like other institutions, but against the government and its policy of allocating funds for educational developments.

"I should like an effort to be made at national level", he explained. "A small grant is made to cities like Cambridge would be more viable than the sums allocated to the Open University. Cambridge it is possible a more on-the-spot feedback from academics."

Recently Dr Monro discussed the situation with a medical subcommittee of the University Grants Committee. But it indicated that the present financial situation limited the possibilities of any friends being made available. He pointed out that the university ought to have availed itself of this available 10 years ago.

Other objections made by Dr Monro covered the structure of the new committee which, he said, did not give sufficient representation to large schools which used audio-visual aids extensively.

He also argued that Mr Brookes' post ought to have been a professorship or temporary directorship as he was holding it concurrently with a lecturership and was blocked from the appointment of a future director needed to develop the unit.

Discussing this last point, Mr Brookes indicated that this situation was immaterial since he will be retiring in four years' time. But he did recognize that some of Dr Monro's complaints were justified.

"Both I and my staff agree that we cannot at present cope with the demands made on us", he said. "But our new premises will undoubtedly help to increase the scale of our activities and the studio will be ready in the autumn. We have after all provided the departments and lecturers with advice and facilities which were not available before within the university."

Patricia Santinelli

A provost in boots from the radical right

Peter Wilby interviews Dr Arthur Suddaby who takes over from Sir Alex Smith as chairman of the CDP in April

On a casual inspection Dr Arthur Suddaby does not strike you as a man of the people. Pin-stripes, waistcoat, rolled umbrella, weekends at an old Rectory in a remote Essex village, weekdays in Chelsea, huntsman with the Essex farmers, a buyer of antiques—Dr Suddaby might almost be wheeled out to American visitors as an all-purpose tourist attraction, combining elements of the county squire and the city gentleman. A few years ago, as a bonus, Dr Suddaby sported Chelsea boots beneath the pin stripes, a hint of the eccentric that the tourists would, no doubt, regard as "cute".

Yet the provost of the City of London Polytechnic has a background as solidly based in the technical college tradition and the world of industry as any of his colleagues. Lower middle class parents, part-time higher education, even a mandatory (for a physicist of his generation) flirtation with the extreme left.

Like three other polytechnic directors, his higher education was in Hull, his home town. Scratch the bland surface and there is still more than a whiff of the north about him. In his amusing and enjoyable after-dinner speeches, the native accent begins to break through the confident middle-class tones. The pot in his office may be silver, but it is a teapot: "I never drank coffee until I was 21 and I have never really liked it."

At heart, he remains an instinctive democrat, with little sense of the importance of rank or status. "The students will look after you", was how he once dismissed a Minister of the Crown when pressing engagements prevented him from spending time with the man. He claims to be a high tory ("I regard Edward Heath as left of centre") but Michael Brandon-Bravo, one of his assistant directors, says firmly that his management style belies it. Some of his views on higher education are sharply radical.

Four years ago, he talked of higher education expanding to the point where it covered 60 per cent of the population. Nowadays, he talks of 40 per cent—but only because, like everyone else, he has to lower his horizons proportionately. Two years ago, he spoke against the grading of degrees: "Students come to learn, not to be put into a classification. Some people go on learning all their lives. It's nonsense that after three years, we say this is a first-class honours man."

Dr Suddaby was born in 1919. His father was a shipping office clerk who turned to basket-making when he went blind. Dr Suddaby started his first-degree course in chemistry as a full-time student at Hull Technical College but switched to part-time study when he was offered a job by British Cod Liver Oil, in which his "main task was to arrive at seven in the morning, receive oil samples from the trawlers and test them for vitamin A and D content."

The war came out when he was in the last years of his degree course and, because he was in industry, he did not have to join the armed services. He went before an army board in the hope of getting a technical commission. "You are a chemist?" they asked. Dr Suddaby said he was. "Huh, not much chemical warfare nowadays. Can you type or drive a motorbike?" He could not, and so they turned him down.

Towards the end of the war, he went to Loughborough and any lingering doubts about Dr Suddaby's acquaintance with the earthier side of life can be banished by disclosing that his job there was to design a plant for the extraction of uric acid from guano. Guanna is (or are, as the case may be) droppings, and the subsidiary of Fisons that employed him had bought an island full of the stuff.

Dr Suddaby was studying, at this time, by correspondence, for a professional qualification in chemical engineering. But, in 1945, there came what he identifies, with a fine sense of the dramatic, as a turning point in his life. He went to the Lake District for a climbing holiday and, on his way back, stopped for a weekend in a house in Manchester. There, he discovered, in a book called *Quest: The Evolution of a Scientist* by Leopold Infeld, a Polish physicist who worked with Einstein in Germany and America and later became professor of physics at Toronto.

He described his work with Einstein quite dramatically—looking back, I have no doubt that it was a highly coloured version—that it impressed on me the fundamental nature of theoretical physics."

Thus inspired, the young Suddaby drew up "a five-year plan" to learn theoretical physics. He went to London and enrolled for a part-time degree in maths at Chelsea College, and later for an MSc in quantum mechanics and electromagnetic theory. At this time, he collaborated on two papers with Sam Levine, now a Manchester University reader in maths, who was then working in J. D. Bernal's laboratory.

Dr Suddaby is reluctant to talk now about the precise extent of his involvement with the Communist Party. "There were some of us who carried party cards and some who didn't. I didn't." It was, after all, the era of the Cold War and McCarthyism and, like most of that generation, Dr Suddaby will feel the need to apologise for his political past. "I was a young man and it was the mood of the times to be left-wing and very anti-fascist."

His Marxism, he says, wasn't a gut feeling, it was a theoretical fascination. "I hadn't walked barefoot in the streets of Hull or anything like that. I didn't even, then, see it as a deprivation that nobody had told me about universities."

Dr Suddaby had read *Das Kapital* at the age of 17 (pressed a little, he will admit that it was only volume one) and was familiar with Engels, too. To this day, he can explain Marxist theory with extraordinary lucidity, as well as the reasons for his disillusionment.

"It was friction of all a theoretical disillusion. Marxism starts off with being a sociological analysis and draws conclusions about the forces changing society. It derives a hypothesis from which it derives a moral imperative. Because the proletariat will be the first ruling class in history that does not exist by exploiting other classes, it deserves support.

"What I found unpalatable was the dictatorship of the proletariat. I wanted to bypass it. In the Soviet Union, it seemed very illiberal. The Berlin Wall, the labour camps, Yugoslavia—repressive acts against individuals that I couldn't justify. By the time Khrushchev made his twentieth Congress speech, I was already out of it and not a bit surprised."

And now? "Now, I believe that the modern obsession with the elimination of peaks of income and capital are entirely irrelevant and utter nonsense. Our main problem in the future will be the rise in the world population curve."

Arthur Koestler once remarked that the next war would be fought between the Communists and the ex-Communists. Largely, perhaps, because ex-Communists retain the enthusiasm that made them Communists in the first place. And Dr Suddaby is, above all, an enthusiast—hence, the exaggerated high tory life-style and the unconvincing claims to be extremely right wing. By the mid-1950s, Dr Suddaby had already thrown himself with enthusiasm into capitalism, just a few years after parting ways with the left.

He began his part-time work as, in the words of his *Who's Who* entry, "a scientific consultant on physical and chemical problems of carriage of goods by sea" in other words, work for those bastions of unregenerate capitalism, the shipowners. He started by travelling, at 24 hours' notice, to Buenos Aires. It was the first time he had been abroad in his life and he ended up spending four days in hospital because of the reaction to his smallpox vaccination.

By this time, Dr Suddaby was a lecturer in physics at Sir John Cass College. (Earlier, he had lectured at the then West Ham Municipal College, another familiar staging post for future polytechnic directors.) He had a doctorate under his belt for his work (which still has its niche in textbooks) on the statistical theory of liquids under Professor R. C. Eisenschitz at Queen Mary College. And he went on to become head of the physics department at Sir John Cass, vice-principal (at the same time as his wife died in 1965) and, finally, principal.

Some of his admirers believe that he could have gone on to a distinguished research career but, according to Dr Suddaby, the longer you go on with liquid theory, the stickier, so to speak, it gets.

When Cass became part of the City of London Polytechnic, Dr Suddaby was made provost. In that role, he has managed to get on with firm views on the future direction of higher education and the role of the polytechnics. On the polytechnic directors' committee, he is noted as a man anxious to protect the polytechnics' autonomy, both from political masters in local government and from academic masters in the Council for National Academic awards. "For some members", said a fellow director, "he wants to go too far in asserting the polytechnics' claims."

Dr Suddaby's view is that the polytechnics are developing the higher education of the future. "We must hope that, in the future, the universities will become more like polytechnics—either that, or they will be run down. If it is right to say that mass higher education should have a different character from the university education that served a small proportion of the population, it doesn't seem sensible to expand the universities and have half the field occupied by them."

Dr Suddaby believes that we have a long way to go before higher education reaches saturation point. "The top 1 per cent of the population have an IQ sufficiently higher than anyone else to justify elite education. But there isn't that much difference between the top 20 per cent and the next 20 or 30 per cent. If you've got 20 per cent in, you've already swallowed mass higher education."

"The universities don't have an intellectual elite that justifies a separate system. So the future must be in a unitary system. Of course, there is till the problem of the high-flier academics. But I doubt that they can be selected as school-leavers. It is probably best to have a common, unified undergraduate education and then elite, university-style postgraduate institutions."

This is the sort of logical, dialectical thinking, soundly based in mathematics, that you would expect from a theoretical physicist. Dr Suddaby himself contrasts it with Sir William Pile's description of Department of Education policy as pragmatic, evolutionary and conservative.

Here is another example, from his lecture to me on the political accountability of higher education: "It is entirely right for society to put aside small amounts of money and subsidize things without any questions asked. Grand opera, for example. Money for the school education of children, which affects everybody, is different. It would be unthinkable to provide money for a set of institutions and just say, give us some school education. Even the DES is wondering now whether the curriculum can be left in the hands of teachers. So there everybody accepts political control but there's a disagreement about the degree.

"Higher education used to be like grand opera. When it was just 4 per cent of the population, it was fair to hand over money to the UGC and say, carry on. But you can't do that with 20 per cent of the age group. Society is paying and has got to be satisfied that the money is being spent properly, though I think encouragement in the allocation of resources is better than prescription."

Did that mean he would support the sort of statements made by Lord Crowther-Hunt early last year? "To some extent. He fell into the trap of appearing to want crude manpower planning, which has been discredited. He's right in saying society cannot continue financing higher education without any say in the kinds of people produced. I'm not happy that student demand is the answer. It's all we've got at the moment, and it was responsible for the massive growth in sociology courses."

The danger of Dr Suddaby is that, as he moves elegantly towards his entirely logical conclusions, he leaves other people gasping for breath. Michael Brandon-Bravo said: "He has considerable intellect which will often lead him to adopt uncomfortable positions in which being right is more important than winning. This sometimes places him in a difficulty with colleagues and officials, who will accept the details of an argument but don't then arrive at the obvious conclusion."

If Arthur Suddaby were an authoritarian, he would be intolerable. But ask anyone who has worked with him to describe his style of management and the answer comes instantly: "Delegation."

The best-known story about Dr Suddaby concerns the days when he was a principal of Cass and an inspector called. "Where's the principal?" he demanded. "He's gone to buy a whip", replied the secretary. The story is enjoyed precisely because, apart from their functions in foxhunting, the use of whips (metaphorically or otherwise) is wholly alien to Dr Suddaby's personality.

Characteristically, that is one of his own favourite stories. "He doesn't take anything too seriously, least of all himself", said an old friend. "When everything is falling about your ears, he laughs", said a former colleague.

Dr Suddaby has few enemies. He is outspoken enough to acquire some as chairman of the poly directors' committee, but only among those who have never met him.

Dr Arthur Suddaby.

Ballot papers on TUC affiliation go out to AUT members this week. Here the AUT puts the case for a "yes" vote.

Eleven reasons why affiliation should be supported

Executive has considered carefully whether or not it would be in the best interest of the Association of University Teachers to affiliate to the Trades Union Congress and has come to the conclusion that it would.

The main advantages Executive hopes for are:

● The TUC is regarded by Government as the major body representing wage and salary earners. It has considerable influence on the attitudes of Government to incomes policy, legislation on employment including dismissals and redundancy procedures, health and safety and other important conditions), superannuation, etc. If we were affiliated we should be in a position to influence TUC policy to cover aspects of particular importance to university teachers and so increase the force of our representations. We should also lessen the likelihood of repetition of the discrimination in our treatment on salaries we have experienced recently.

● We could influence TUC education policy, especially in relation to the universities. The TUC pays much attention to education and makes representations to Government; concerning it. In the absence of the AUT, the TUC policy is determined without an authoritative voice on university education.

● Affiliation to the TUC would help us to find allies in our fight against the Government's campaign of attrition against education and its policy of divisiveness by posing one sector against another. It could facilitate our co-operation with the other major teaching unions as well as with other "campus" unions on broad educational issues and other matters of common interest.

● The AUT could benefit from the TUC training schemes for newly-appointed officials and branch officers, as well as benefiting from TUC experience and expertise in many areas. We could also make use of its research department.

● Affiliation could help to create better understanding between the AUT and the general body of organized industrial workers and so contribute to improving the general image of universities.

● Affiliation could help to resolve some of the arguments on representation of "fringe" groups such as postgraduate tutors and demonstrators and would make it more difficult for other unions to "ponch" on our "territory".

Executive has also considered the following points:

● The position of the TUC with respect to the Labour Party: affiliation to the TUC does not involve affiliation to the Labour Party and a number of unions are affiliated to the former but not the latter. The TUC makes no financial contribution to the Labour (or any other) Party, and it respects the position of affiliated unions who wish to be politically uncommitted.

● The TUC debates and votes on motions of a general political character on which member of the AUT have various views and on which some members would not wish the AUT to be committed. Some unions such as the National and Local Government Officers Association and the National Union of Bank Employees have adopted the policy of abstaining on such issues. It would be up to the AUT to decide what it wished to do on these matters.

● The fact that our membership is small in comparison with that of many other unions: we have noted that disproportionately many resolutions carried by congress are moved by small unions and that a number of unions as small as, or smaller than, the AUT are represented on the general council. Thus, although in a card vote at congress the large unions can carry the day, the influence of small unions on all aspects of TUC work is substantial.

● The positive effect on membership: some unions, when considering affiliation to the TUC have been faced with gloomy predictions of loss of members if they did so. In the case of several which have affiliated, such as NALGO (which has among its members senior professional administrative staff), and the Association of Teachers in Technical Institutions, the number of resignations was very small. There is no good reason to suppose that the AUT would be different.

● The cost: the affiliation fee is currently £12 head per annum. In addition there would be increased travel and subsistence costs for attendance at meetings.

Conclusion

In recent years the influence of the TUC on Government—whichever party is in power—has grown substantially. Executive considers this especially important, particularly in respect of education policy.

Executive is of the opinion that the balance of advantage lies with affiliation to the TUC and that this could be of great assistance to our work. It therefore urges members to vote "yes" in the ballot.

More articles about this issue will be published in the next few weeks.

NOTICE BOARD

Appointments

Universities

Cardiff

Senior lecturer : S. Walsh (music). Lecturers : A Everitt (social administration) ; Dr R. M. Santer (anatomy) ; Dr J. A. Gaskell (psychology) ; Dr D. W. Knight (chemistry).

Edinburgh

Lecturers : E. W. Walls (anatomy, part-time) ; E. J. Pettenburg (archaeology, temporary) ; A. W. C. Owen (clinical surgery, temporary) ; R. St C. Barnetson (dermatology, temporary) ; L. A. Valdivia (educational studies) ; R. P. Noble (forestry and natural resources, temporary) ; F. G. R. Fowkes (general practice) ; K. Dahl (geography, part-time) ; R. A. Elton (medical computing and statistics) ; R. E. Cull (medical neurology), N. J. Douglas, C. P. Swanson (medicine, temporary) ; A. A. Templeton (obstetrics and gynaecology) ; A. C. Rankin (orthopaedic surgery, temporary) ; A. J. Chalon, R. A. Machin, C. M. Pickin (pathology, temporary) ; R. Nelson (preventive dentistry) ; J. Child (psychiatry, temporary) ; J. R. Hamilton, T. Walmsley, E. S. Smiouth (social administration) ; R. M. Smallwood (restorative dentistry, temporary) ; C. M. Theobald (statistics) ; T. G. Birley (urban design and regional planning, temporary) ; D. R. Crawford (veterinary physiology, temporary) ; F. G. G. Jackson (veterinary surgery). Senior lecturer : D. J. Wheatley (clinical surgery).

Ulster

Lecturers : G. Parry, Dr J. Welton (education) ; P. Pyne (public services studies division, I.C.E.). Temporary lecturers : Dr H. McGavock (human biology, part-time) ; J. B. H. Hollick (West European studies) ; R. MacNeice (social work). Research assistants : M. Pearson (social administration) ; R. A. Perrott (geography) ; R. J. Plowden (biology) ; P. M. Kelly (physics) ; Dr N. U. S. Hashmi (chemistry). Research fellows : J. A. Robinson (social administration, part-time) ; B. R. Burgess (liberal and contemporary studies division I.C.E.) ; Dr K. P. Pande (physics).

York

Research fellow : J. G. Hoggett (biology) ; R. Taylor (physics). Lecturer : C. C. Dobson (chemistry).

Polytechnics

Kingston

Head of department : Dr J. A. Conklin (school of electrical and electronic engineering).

Leicester

Head of department : D. Russell (design centre).

General

Professor A. W. Johnson, professor of chemistry and honorary director of the Agricultural Research Council Unit of Invertebrate Chemistry and Physiology, University of Sussex, has been appointed a member of the National Research Development Corporation.

Chairs

Dr M. C. Alborn, reader and head of the department of sociology, University College, Cardiff, has been promoted to a personal chair.

Dr W. E. Simons, reader in the department of civil engineering, University of Surrey, has been appointed to the new chair of geotechnical engineering at the university.

Professor Lionel March, formerly professor of systems/design, University of Waterloo, Ontario and now lecturer at the university of Cambridge, has been appointed professor of design at the Open University.

Professor H. G. Calvert, head of the department and dean of the faculty of law at the University College, Cardiff, has been promoted to the second chair of law at the university.

Course news

A short course on fire and explosion hazards will be held at the University of Leeds from April 12 to 14. Details : Director of Special Courses, Department of Adult Education and Extramural Studies, Leeds University.

Recent publications

Educating and Training Technicians by A. MacLennan (published by the Committee Secretariat, Marlborough House, Pall Mall, London SW1Y 5HX, £2.40) emphasizes the shortage of trained technicians in developing countries, together with the need for their future economic and social progress.

* * *

Trends in Education (published by HMSO, 35p), a Department of Education and Science booklet mainly concerned with the problems of the young teacher, and the pilot induction scheme in Northumberland.

* * *

Teaching Classical Studies (published by Exeter/Arthur Educational, £2.15 available through all booksellers). A report published for the Schools Council with particular reference at the 13-19 age range, to classical and non-specialist teacher in classical studies. Appendices provides examples of syllabuses.

* * *

Greece, by Robin Mead, an occasional contributor and sub-editor of *The THES*, has been published by Batsford (£4.95) and available through all bookshops). Mr Mead says : "I have written *Greece* both for the armchair traveller and for those who want to explore Greece more deeply."

This is a still from The Westerner, a film defined by Robert Warshow as best exemplifying the classical form of the Western, but containing darker and more oblique impulses (hinted at in the still) which Warshow overlooked.

The Westerner is one of a group of key Goldwyn films unavailable for many years in this country and now available from the BFI. The group includes other William Wyler titles such as The Best Years of Our Lives, The Little Foxes and Dead End ; Ball of Fire, Barbary Coast and A Song is Born (Howard Hawks) ; and The Hurricane (John Ford).

• films available from BFI Distribution Library, 42/3 Lower Marsh, London SE1 • books and periodicals from BFI Book Library, 81 Dean Street, London W1 • advice on course construction from BFI Educational Advisory Service, 62 Dean Street, London W1.

THE BRITISH SOCIOLOGICAL ASSOCIATION
Annual Conference on Sociology of Health and Illness : theory, research, policy
To be held from 6-9th April 1976 at Owen's Park, Manchester
Speakers include : Elliot Friedson, Rt Hon David Owen, M.P., Hilary Rose, T. H. Marshall, Anthony Giddens, Roy Turner.
Further details from the BSA, 13 Endsleigh St., London WC1 0DJ

Forthcoming events

"Humanity in Warfare", an inaugural lecture will be given by Professor G. F. A. Best, professor of history, Sussex University on February 24 at 6.30 pm in the Arts Lecture Theatre, A1, University of Sussex, Falmer, Brighton. It will be open to the public.

* * *

A special lecture to celebrate the bicentennial of the American declaration of independence entitled "The American Foreign Policy Tradition and the Origins of the Cold War" will be given by Professor Lloyd C. Gardner, professor of history, Rutgers University, USA on February 26 at 5.30 pm in the School of Physics, University of Newcastle upon Tyne.

* * *

A seminar on "Solar Energy for Building", will be held at the North East London Polytechnic, Room E2, Waltham Forest Precinct, Forest Road, London E17, on February 26. Further enquiries from Jane Chapman, Press Officer, NELP, Romford Road, London E15 4LZ. Fee : £6.00 (reduced fee for students).

* * *

A lecture in estate management will be held at the College of Estate Management, Palmer Building, University of Reading, Whiteknights, Reading, Berkshire on February 26 at 6.00 pm. It will be given by Mr C. T. Sandford, professor of land economy at the University of Aberdeen, who will trace the current trends in ownership in the light of the influences of inflation and taxation. Further information from E. Jordan, College of Estate Management.

Noticeboard is compiled by Myrna Monsurate and Patricia Santinelli

Open University programmes February 21 to 27

Saturday February 21

BBC 2

7.40 Mathematics foundation course : Analysis of Analogy (M100) ; prog 1.
8.05 Arts foundation course : The Necessity for History (A100) ; prog 1.
8.30 Topics in pure mathematics : "If You Can't Have All Of The Num[bers]" (M202) ; prog 3.
8.55 Regional analysis and development : Underdeveloped Scotland ? (D342) ; prog 3.
9.20 The sociological perspective : Society (DD304) ; prog 1.
9.45 Physiology of cells and organisms : Cells, Tissue and Ultrastructure (S282) ; prog 11.
10.10 Personality and learning : Rosenzweig's Dream Work (E301) ; prog 3.
10.36 Linear mathematics : Hermitic Norms (M252) ; prog 11.
11.00 Urban education : Chicano (E351 ; prog 3.
11.25 Twentieth-century poetry : "Old Love" by Thomas Hardy and Cornwall (A305) ; prog 3.
11.50 Arts foundation course : Physical Cosmology : The Years of Change (A206 ; prog 3.
12.15 National income and economic policy : Analysing Income and Demand (D262) ; prog 11.
12.40 Decision making in British education : The Public Mind (E352) ; prog 11.
13.05 Introduction to instrumentation : Numbers and Their Representation (T281) ; prog 11.
13.30 Biological bases of behaviour : Chemistry and Physiology of the Nervous System (SD1206) ; prog 1.

RADIO 3 (VHF)

8.00 Patterns of inequality : What is Inequality ? (D362) ; prog 11.
9.30 Urban problems : Naive Problems of Decision-Making and Control (T241) ; prog 11.
9.40 Technology and Society : Technology, Management and Education ; Three Levels of Management (E323) ; prog 1.
7.00 National income and economic policy : Analysing Individual Purchases (D262) ; prog 11.
7.20 Statistics : an Interdisciplinary Course : The Need for Theory (MDT241) ; prog 1.
7.40 Technology and Man : Talking about Recreation (A241) ; prog 1.

RADIO 4 (VHF)

8.00 Reading Scotland and parts of Wales
8.05 Open Forum
8.20 Music from 1848 to the present : Styles and Social Implications ; Music as a Reality (AX242) ; prog 3.
8.45 History of architecture and design in Britain : Victorian Values (D201) ; prog 11.
10.03 Mathematics foundation course : Operations and Morphisms (M100) ; prog 1.
10.30 Bank foundation course : Is History Bunk (A100) ; prog 6.
10.55 Technology foundation course : How Things Work : Structures (T251) ; prog 31.
11.15 Making sense of society : Racial Minorities in Britain (DD01 ; prog 31.
11.35 Science foundation course : Study Problems and How to Avoid Them (S100) ; prog 1.
12.00 An introduction to psychology : The Psychology of Exceptional and Other Disciplines (DS351 ; prog 1).
12.25 The sociological perspective : The Sociological Tradition (DS351 ; prog 2).
12.50 Renaissance and Reformation : Interpreting the Fourteenth Century (A301) ; prog 3).
13.15 An algorithmic approach to computing : Introduction to the Course (M261 ; prog 1).
13.40 Decision making in Britain : What is the Use of Decision-Making Theory ? (D342) ; prog 2).
14.05 Curriculum, design and development : The Second Level ; prog 2).
14.30 Social psychology : Researching Environmental Learning (D342) ; prog 3).
14.40 Language and learning : Language and Social Change (E322) ; prog 2).

RADIO 3 (VHF)

Additional programmes for north Scotland and parts of Wales
24.00 Renaissance and Reformation : Interpreting the Fourteenth Century (A301) ; prog 3).
00.20 The Use of Statistics : An introduction to psychology : The Psychology of Exceptional and Other Disciplines (DS351 ; prog 1).
00.45 Open Forum

Sunday February 22

BBC 2

7.40 Technology foundation course : Telecommunications (T100 ; prog 2).
8.05 Making sense of society : Racial Minorities in Britain (DD01 ; prog 31.
8.30 Science foundation course : Space and Time (S100 ; prog 3).
8.55 Introduction to engineering : Analysing Motion (T251) ; prog 6.
9.20 Technology foundation course : Introduction to Engineering (T100 ; prog 3).
9.45 Science foundation course : Newton's Laws of Motion (Friend ; prog 11.
10.10 Decision making in British education : The Public Mind Ticket ? (E352) ; prog 11.
11.00 Introduction to instrumentation : Numbers and Their Representation (T281) ; prog 11.
11.25 Mathematics foundation course : Numbers Now and Then : Numbers and Numerals (M100) ; prog 1.
11.50 Arts foundation course : Physical Cosmology : Structures ; Course Study (A206) ; prog 3.
12.15 An introduction to psychology : What is Psychology ? (DS351 ; prog 1.
12.40 Social performance : Action Factors and Systems Influence (DD304) ; prog 2.
13.05 Decision making in Britain : The Individual as a Source (D342) ; prog 2.
13.30 Environmental control and public health : Success and Failure (S251) ; prog 11.

RADIO 3 (VHF)

8.00 Sexuality and learning : Is it Significant ? (E301) ; prog 2).
8.20 Curriculum, design and development : Social Context ; Focus ; Prog 2).
8.40 Art and environment : Having Ideas of Handling Materials (TAD212 ; prog 2).
9.05 Introduction to engineering : Kinematics : Graphical Methods (T251) ; prog 3.
9.20 The revolutions of 1848 : The Revolutions of 1848 Long Term Significance ; Europe (D301) ; prog 3.
9.40 Making sense of society : Racial Minorities in Britain (DD01 ; prog 31.
10.00 Science foundation course : Study Problems and How to Avoid Them (S100) ; prog 1.
10.25 An introduction to psychology : The Psychology of Exceptional and Other Disciplines (DS351 ; prog 1).
10.50 Renaissance and Reformation : Interpreting the Fourteenth Century (A301) ; prog 3).
11.15 The Use of Statistics : An introduction to psychology : The Psychology of Exceptional and Other Disciplines (DS351 ; prog 1).
11.40 Open Forum
11.55 Arts foundation course : Study Problems and How to Avoid Them (A100) ; prog 1.
12.20 Topics in pure mathematics : "If You Can't Have All Of The Num[bers]" (M202) ; prog 3).
12.45 Regional analysis and development : Underdeveloped Scotland ? (D342) ; prog 3).
13.10 The sociological perspective : Society (DD304) ; prog 1.
13.35 Physiology of cells and organisms : Cells, Tissue and Ultrastructure (S282) ; prog 11.
14.00 Personality and learning : Rosenzweig's Dream Work (E301) ; prog 3.
14.26 Linear mathematics : Hermitic Norms (M252) ; prog 11.
14.50 Urban education : Chicano (E351 ; prog 3.
15.15 Twentieth-century poetry : "Old Love" by Thomas Hardy and Cornwall (A305) ; prog 3.
15.40 Arts foundation course : Physical Cosmology : The Years of Change (A206 ; prog 3.
16.05 National income and economic policy : Analysing Income and Demand (D262) ; prog 11.
16.30 Decision making in British education : The Public Mind (E352) ; prog 11.
16.55 Introduction to instrumentation : Numbers and Their Representation (T281) ; prog 11.
17.20 Mathematics foundation course : Numbers Now and Then : Numbers and Numerals (M100) ; prog 1.
17.45 Arts foundation course : Physical Cosmology : Structures ; Course Study (A206) ; prog 3.
18.10 An introduction to psychology : What is Psychology ? (DS351 ; prog 1.
18.35 Social performance : Action Factors and Systems Influence (DD304) ; prog 2.
19.00 Decision making in Britain : The Individual as a Source (D342) ; prog 2.
19.25 Environmental control and public health : Success and Failure (S251) ; prog 11.

RADIO 3 (VHF)

8.00 Sexuality and learning : Is it Significant ? (E301) ; prog 2).
8.20 Curriculum, design and development : Social Context ; Focus ; Prog 2).
8.40 Art and environment : Having Ideas of Handling Materials (TAD212 ; prog 2).
9.05 Introduction to engineering : Kinematics : Graphical Methods (T251) ; prog 3.
9.20 The revolutions of 1848 : The Revolutions of 1848 Long Term Significance ; Europe (D301) ; prog 3.
9.40 Making sense of society : Racial Minorities in Britain (DD01 ; prog 31.
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16.30 Decision making in British education : The Public Mind (E352) ; prog 11.
16.55 Introduction to instrumentation : Numbers and Their Representation (T281) ; prog 11.
17.20 Mathematics foundation course : Numbers Now and Then : Numbers and Numerals (M100) ; prog 1.
17.45 Arts foundation course : Physical Cosmology : Structures ; Course Study (A206) ; prog 3.
18.10 An introduction to psychology : What is Psychology ? (DS351 ; prog 1.
18.35 Social performance : Action Factors and Systems Influence (DD304) ; prog 2.
19.00 Decision making in Britain : The Individual as a Source (D342) ; prog 2.
19.25 Environmental control and public health : Success and Failure (S251) ; prog 11.

RADIO 4 (VHF)

8.10 People and organizations : Introduction (DT382) ; prog 1.
8.30 Historical data and the social sciences : Sampling Historical Data (D301) ; prog 13.
8.50 Numerical Computation : Rounding Errors (M351) ; prog 1).
10.10 Man-made futures : design and technology : Technology and Society (T262) ; prog 1).

RADIO 3 (VHF)

24.00 Renaissance and Reformation : Interpreting the Fourteenth Century (A301) ; prog 3).
00.20 Modern art from 1848 to the present : styles and social implications : Images of Women (AX241) ; prog 3).
00.40 History of architecture and design in Britain : Victorian Values (D201 ; prog 4).

Monday February 23

BBC 1

7.05 The nature of chemistry Part 1 : Patterns of Laboratory Work (S251) ; prog 1).
7.30 An introduction to the chemistry of carbon compounds : Diffraction : Molecular Structure Determination (S224 ; prog 2).

BBC 2

8.40 Instrumentation : Introduction to Instrumentation (T291) ; prog 1).
7.05 Introduction to engineering : Mechanics 2 : Analysing Motion (T251 ; prog 1).
7.30 Introduction to engineering : Mechanics 2 : Analysing Motion (T251 ; prog 1).
17.00 Technology for teachers : Case Studies : A Structured Course (PET271 ; prog 2).
17.25 The Earth's Physical Resources : Coal—The Years of Change (S206 ; prog 1).
17.50 Statistics : an Interdisciplinary Course : Telling Things Up (MDT241 ; prog 2).
18.15 Mathematics foundation course : Exploring Shapes (M101) ; prog 1).
18.40 Technology foundation course : Follow the Models (T100 ; prog 2).

RADIO 3 (VHF)

6.00 Decision making in Britain : What is the Use of Decision Making Theory ? (D342 ; prog 1).
6.30 An introduction to psychology : The Relation of Psychology to other disciplines (DS351 ; prog 1).
6.40 The sociological perspective : The Sociological Tradition (DS351 ; prog 1).
7.45 Methods of educational enquiry : an empirical approach : Research Philosophy (E353) ; prog 1).
8.05 Great Britain 1700-1850 sources and historiography : Introduction to Research : An 18th Century Example (D321) ; prog 2).
8.25 The nineteenth-century novel and its background : The Novel and Society (A312) ; prog 3).
8.45 Management in education : Three levels of management (E322) ; prog 2).
9.10 Making sense of society : Racial Minorities in Britain (DD01 ; prog 31.

Additional programmes for north Scotland and parts of Wales

24.00 History of architecture and design in Britain (D201) ; prog 31.

Tuesday February 24

BBC 1

7.05 Art and environment : Having Ideas of Handling Materials (TAD212 ; prog 2).
7.30 Materials under stress : Tools of the Trade (T231 ; prog 3).

BBC 2

6.40 Patterns of inequality : A Woman's Place (D362) ; prog 12.
17.00 The sociological perspective : Society (DD304) ; prog 2.
17.25 Regional analysis and development : Underdeveloped, Scotland ? (D342) ; prog 3).
17.50 Renaissance and Reformation : The Invention of Printing (A301 ; prog 4).
18.15 The nature of chemistry : Part 1 : The Development of Laboratory Techniques (S251 ; prog 1).
18.40 Science foundation course : Space and Time (S100 ; prog 3).

RADIO 3 (VHF)

6.20 The Earth's physical resources : Help for the non-geologist (S266 ; prog 1).
6.40 An algorithmic approach to computing : Introduction to the Course (M261 ; prog 1).
7.45 Introduction to engineering mechanics 2 : Relative Motion (T251 ; prog 2).
18.05 National income and economic policy : Aggregate Output-Input Techniques (D262 ; prog 2).
18.25 Patterns of inequality : What is Inequality ? (D362 ; prog 2).
18.45 Art and society : Silence and Response to the Study of War (A301 ; prog 1).
19.05 Bank foundation course : Is History Bunk ? (A100 ; prog 6).

Additional programmes for north Scotland and parts of Wales

24.00 Science foundation course : Study Problems and How to Avoid Them (S100 ; prog 3).
00.25 Mathematics foundation course : Operations and Morphisms (M100 ; prog 4).

Wednesday February 25

BBC 1

7.05 An introduction to materials : Structures (T221 ; prog 1).
7.30 Introduction to cells and organisms : Cell Membranes (S231 ; prog 2).

BBC 2

6.40 Twentieth-century poetry : Old Love by Thomas Hardy (A305 ; prog 2).
7.05 An introduction to psychology : What is Psychology ? (DS351 ; prog 1).
7.30 Introduction to engineering mechanics 2 : Analysing Motion (T251 ; prog 3).
17.00 The sociological perspective : Society (DD304) ; prog 2.
17.25 Industrial Archaeology : Introduction (D321) ; prog 1).
17.50 Art and environment : Having Ideas of Handling Materials (TAD212 ; prog 1).
18.15 The revolutions of 1848 : The Revolutions of 1848 Long Term Significance ; Europe (D301) ; prog 3).
18.40 Arts foundation course : Study Problems and How to Avoid Them (A100) ; prog 1.

RADIO 3 (VHF)

8.00 Language and learning : Language and Social Change (E322) ; prog 2).
8.20 Mathematics of educational research : Statistical Identity (E353) ; prog 2).
8.40 The age of revolutions : The French Revolution (D301) ; prog 2).
18.05 Urban development : Some Problems of Development and Conservation (DT202) ; prog 2).
18.25 Decision making in British education : Who Runs the British Education System ? (E352) ; prog 2).
18.45 Solids, liquids and gases : Kinetic Theory and Ideal Gases : Laws (S7285) ; prog 11.
19.08 Mathematics foundation course : Mathematics Tutorial (M100 ; prog 3).

Additional programmes for north Scotland and parts of Wales

24.00 An algorithmic approach to computing : Introduction to the Course (M261 ; prog 1).
00.20 The sociological perspective : Society (DD304) ; prog 1.
00.40 Curriculum design and development : Social Context ; Focus ; Prog 2).

Thursday February 26

BBC 1

7.05 Decision making in British education : Who Runs the British Education System ? (E352) ; prog 11).
7.30 Decision making in Britain : Decision as a Source (D342 ; prog 2).

BBC 2

6.40 National income and economic policy : Aggregate Output-Input Techniques (D262) ; prog 12.
7.05 Linear mathematics : Hermitic Norms (M252) ; prog 11.
7.30 Ideological bases of behaviour : Chemistry and Physiology of the Nervous System (SD1206) ; prog 2.
17.00 Systems performance : Introduction (T232) ; prog 1.
17.25 Topography and mapping : Relief : Drawn-work : Use of Contours (T234) ; prog 11.
17.50 Patterns of inequality : Are we all middle class ? (D362) ; prog 3.
18.40 Making sense of society : Racial Minorities in Britain (DD01 ; prog 31.

RADIO 3 (VHF)

6.00 Curriculum design and development : Social Context ; Focus ; Prog 2).
6.20 The sociological perspective : Society (DD304) ; prog 2.
6.40 Decision making in Britain : What is the Use of Decision Making Theory ? (D342 ; prog 2).
17.45 Introduction to engineering mechanics 2 : Relative Motion (T251 ; prog 2).
18.05 Forts (Part 1) : Introduction ; Geographical Significance ; Historical Significance ; Classification (D322) ; prog 1).
18.25 Personality : Introduction (E353) ; prog 1).
18.45 Solids, liquids and gases : Kinetic Theory and Ideal Gases (S7285) ; prog 11.
19.08 Mathematics foundation course : Mathematics Tutorial (M100 ; prog 3).

Additional programmes for north Scotland and parts of Wales

24.00 Twentieth-century poetry : Old Love by Thomas Hardy (A305 ; prog 2).
00.20 An introduction to psychology : The Psychology of Exceptional and Other Disciplines (DS351 ; prog 1).
00.45 Science foundation course : Study Problems and How to Avoid Them (S100) ; prog 1.

Friday February 27

BBC 1

7.05 Solids, liquids and gases : Kinetic Theory and Ideal Gases (S7285) ; prog 11.
7.30 Statistics : an Interdisciplinary Course : Telling Things Up (MDT241 ; prog 2).

BBC 2

6.40 The development of instruments : The Barometer (AS04 ; prog 1).
7.05 The revolutions of 1848 : The Revolutions of 1848 Long Term Significance ; Europe (D301) ; prog 3).
17.00 The Earth's physical resources : Help for the non-geologist (S266 ; prog 1).
17.25 The invention of printing (A301 ; prog 4).
17.50 An introduction to materials : Structures (T221 ; prog 1).
18.15 An introduction to psychology : The Psychology of Exceptional and Other Disciplines (DS351 ; prog 1).
18.40 Industrial Archaeology : Introduction (D321) ; prog 1).

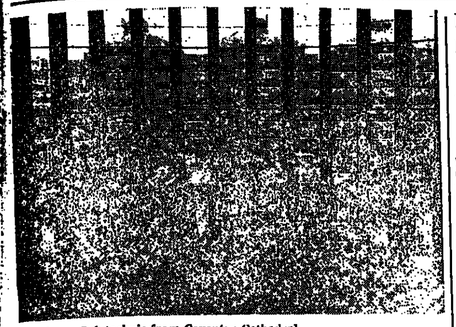
RADIO 3 (VHF)

6.00 Curriculum design and development : Social Context ; Focus ; Prog 2).
6.20 Linear mathematics : Hermitic Norms (M252) ; prog 11.
6.40 Decision making in Britain : What is the Use of Decision Making Theory ? (D342 ; prog 2).
17.45 Introduction to engineering mechanics 2 : Relative Motion (T251 ; prog 2).
18.05 Forts (Part 2) : Significance ; Classification (D322) ; prog 2).
18.25 Personality : Introduction (E353) ; prog 1).
18.45 Solids, liquids and gases : Kinetic Theory and Ideal Gases (S7285) ; prog 11.
19.08 Mathematics foundation course : Mathematics Tutorial (M100 ; prog 3).

Additional programmes for north Scotland and parts of Wales

24.00 Twentieth-century poetry : Old Love by Thomas Hardy (A305 ; prog 2).
00.20 An introduction to psychology : The Psychology of Exceptional and Other Disciplines (DS351 ; prog 1).
00.45 Science foundation course : Study Problems and How to Avoid Them (S100) ; prog 1.

* repeated programme.



Lanchester Polytechnic from Coventry Cathedral.

Ambitious Lanchester grows slowly modular

Lanchester Polytechnic has always been considered one of the stronger academic institutions among the 30 polytechnics. It narrowly missed being designated a university when the colleges of advanced technology were upgraded in the 1960s and it has always had a large proportion of its students on degree-level work.

Lanster also has a reputation for ambition. Under its three directors, Sir Alan Richmond, Dr Keith Legg and now Mr Geoffrey Holroyde, it has never wavered from its commitment to being a large city-centre polytechnic with a large proportion of students on degree courses.

Dr Keith Legg, now director of the Hong Kong Polytechnic, had a particular reputation for expansion with dreams of up to 10,000 students only surpassed by Mr Jack Butterworth's Warwick University of 20,000 students.

Now economic restraints have put paid to developments on both sides of the binary line. Lanchester looks like stopping its development at about 5,000 students. The new *director, Mr Holroyde*, is no apologist for growth. Under his direction the polytechnic will still grow from its present total of 3,484 students on full-time and sandwich courses but it will not reach 10,000.

The academic effects of such a policy will soon begin to bite. For one thing, lecturers can no longer look forward to unlimited expansion.

At present Lanchester has progressed from offering traditional single subject degrees to providing some modular courses. It has always shunned the more dramatic developments like the City of London Polytechnic multidisciplinary degree or academic arrangements like Middlesex Polytechnic's matrix system.

At the same time it has not used its technological base to keep departmental structures like those at Teesside Polytechnic or at the Polytechnic of Wales before it merged with Glamorgan College of Education in Barry.

Lanchester is now attempting to operate its own pattern of academic development, which aims to cover the traditional qualities of flexibility, academic relevance and a vocational bias which are among the hallmarks of the polytechnics.

By the 1980s Lanchester aims to offer a wealth of part-time degree and postgraduate courses, wide academic flexibility for the full-time undergraduate and hold a proven reputation for placing students in jobs.

The shape of polytechnic developments to come can be seen in two major degree courses in applied science and combined engineering. To a lesser extent it can be seen in an existing computer-science degree and in proposals for communication studies, land science and engineering.

Combined engineering studies is a course built on Lanchester's modular credit system whereby a student has a wide range of choice from which to build up a series of credits towards a degree.

Students are able to transfer to more specialized degrees in mechanical or electrical and electronic engineering at the end of their first year of study. Alternatively they can choose not to specialize and receive an award in general engineering.

Students taking more specialized courses, which include production and civil engineering, are guaranteed a place in industry during their sandwich course.

Those on combined studies can take courses in marketing, financial management and control and industrial management. One compulsory subject is business administration to give engineers an insight into the problems of management.

Lanchester Polytechnic also enables engineers, who might want the higher salaries available in Europe, to study a foreign language, such as French or German, during their course.

Similar flexibility is available to students entering the faculty of applied sciences which allows students to transfer from specialist degrees in physical science to materials technology courses and other courses.

The polytechnic's proposed degree in land science and engineering also follows a modular credit system on the American pattern allowing students to graduate with honours or not, depending on the number of credits earned.

Again the aim is to relate the specialisms of land use, conservation, development so that graduates can emerge with a broad knowledge of the field rather than a narrow compartmentalism.

The degree includes an emphasis on skill, by introducing students to a systems approach to problem solving in their first year.

The proposed communication studies degree, which will be under the faculty of art and design, focuses on the mass media. It includes studies of print, film, radio and television as well as introductory courses in sociology and psychology which later lead to studies of advertising and propaganda.

One novel feature is an attempt to hold fortnightly seminars and teach-ins to encourage people from outside the polytechnic to give lectures.

These four courses are typical of the new style that is becoming available at a polytechnic which has traditionally concentrated on the single-subject degree.

Now there is more competition for students, the polytechnic admits that single-subject degrees may not have been the most popular. Lecturers are hoping that the new courses will be academically superior to the old as well as more attractive.

The polytechnic is making its own contribution to attracting science and technology students by holding special courses for sixth-formers at its Rugby site.

Since 1968 a course for sixth-formers, particularly aimed at attracting women to train for science and engineering, has been mounted. Courses have also been run for craft and science teachers on technological project work.

Lanchester's plan for the future includes no place at present for the Diploma of Higher Education. It believes that its credit system should give students enough flexibility without introducing yet another new qualification.

The success of Lanchester's more limited version of modular choice will depend on whether students ultimately opt for more conventional courses in other polytechnics or universities. What is clear is that the national demand in science and technology is so low that any new development is always welcome.

David Hencke

Is the Open University competing with conventional universities? Yes, say David Harris and John Holmes, viewing the prospect with unease

A threat to conventional methods in the logic of administrators

With the recent publication of the Gavin Report recommending an expansion of academic staff at the Open University by up to 60 per cent over the period up to 1984, at a cost of several million pounds, it seems an appropriate point for those in austerity-hit conventional higher education to reconsider the implications of the development of the Open University, and in particular concerns the possibility of a general shift away from conventional higher education towards Open University-type education.

Of course, the Open University has always been careful to deny it was competing directly with conventional higher education, and it is true that despite the few 18 to 21-year-olds studying at the Open University on an experimental basis, the vast majority of Open University students would not have considered a conventional university education (due to their job and family commitments rather than any lack of entrance qualification).

However, more indirectly the Open University is already competing with higher education and this competition is likely to increase. It is likely, for example, that Open University graduates will have a considerable effect on the graduate job market ; they are already causing a considerable increase in the total number of graduates and have the great advantage over conventional graduates of normally being already well-established in careers.

Of greater potential importance are the Open University's plans for expansion which the vice-chancellor, Sir Walter Perry, outlined in the Rede lecture for 1974 at Cambridge University. In this lecture, Sir Walter argued that Open University-type education could be the basis of expanding continuing education which would eventually lead to a "concomitant reduction in the length and cost of initial education".

He was then suggesting a simple shrinking of higher education, but the preservation of university education of the Oxbridge pattern for a small elite of "scholars" with shorter more general courses for the mass of more "practical" individuals who would then specialize in adult life with Open University-type courses, which would be more vocational than the majority of present courses at the Open University.

From recent reports, it seems that universities in general are trying to defend themselves in terms of preserving a few "centres of excellence", but the possibilities that this offers the Open University in balancing this "excellence" may not have been realized within the universities.

We feel the OU is important primarily because it offers a new model of education which must increasingly impose a threat to the best elements of conventional education, because its logic is that of administrators and of our current politicians.

The OU is, for example, eminently suitable as a means of offering the range of "vocational" courses that the present Government seem so keen to introduce—in spite of some lack of success in attracting students to its existing "post-experience" courses.

More importantly, the fervently advocated logic of choosing the most rational means to gain clearly stated objectives ends already permeates the OU.

Much has also been made of the market research activities at the OU which enables the material to suit the needs of the students and, of course, of the mass delivery techniques of broadcasting and postal distribution. More generally this form of education is considered "rational" in being open to all and thus seeming to make the best use of "scarce talent resources" which, it is often argued, are unjustifiably excluded from conventional universities.

But how do things look from the inside for academics ? The OU has the attraction for some of allowing central academic staff to specialize in a particular academic area. However, this specialization does not normally take the form of allowing research to expand the area concerned but involves summarizing and polishing what is already known into a couple of units or so each year.

Perhaps more crucial in practice is the politics of the coordination of the various specialisms in the supposedly integrated courses. Again, this appeals to some who like playing the committee politics of large organizations to further their own careers, but none of this has much to do with the essentials of education.

It is unfortunate in our view that most conventional academics show little concern for being involved in and reconsidering the *form* of education, for improving the quality of dialogue, although there remains a possibility in conventional universities.

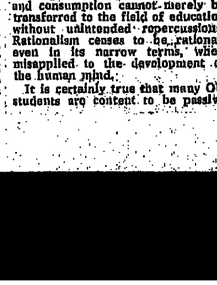
The OU academics are not expected to be concerned with the form of education : they are simply knowledgable experts. If Sir Walter gets his way with the future direction of higher education, it is important that conventional academics realize that this role would be expected of more of them too.

For regional centers the Open University is different again. They have the contact with the students missing at the centre, but then they have no power over either the form or the content of the courses.

Maybe these limitations can be justified if the end product is of high quality. But what is the "end product"? The politicians and administrators have been impressed by the various systems and course materials but these highly visible products surely do not constitute the *end* product, the reality of education at the Open University.

As we see it, the rationality of the various systems at the Open University can never be the reality of education, for the former is merely the rationality of large-scale production, of mass communication, of cost-effectiveness. The latter must be sought within the students' interaction with the units, the broadcasts, the tutors and the other students.

The quality of this interaction remains largely an unknown at the Open University, not because of the considerable difficulty of observing it, but because of confusion in equating Open University course production techniques with the reality of education, which has meant that there has been very little investigation into interactions.



Some students have made education a reality at the OU, but against the system rather than because of it. Not only is the whole system geared to the idea of the student as the passive receiver of knowledge, but the various parts of the system where the student might be expected to develop ideas and express them within his own framework are themselves so arranged to curtail such thought.

What other conclusion can be drawn from the increasingly standardized assessment system—from student research which is organized on market research criteria, from the reduced emphasis placed on face-to-face contact and the insistence that such contact should be "remedial" in nature?

It is not realized that the rationalist logic of industrial production and consumption cannot merely be transferred to the field of education without unintended repercussions. Rationalism ceases to be rational, even in its narrow terms, when misapplied to the development of the human mind.

It is certainly true that many OU students are content to be passive consumers, concerned particularly with grades, credits and the gaining of qualifications. From our experience of talking to the students, however, it is the pressure of the OU system rather than anything else which makes grades and credits so crucial, with the result that the knowledge itself is often only absorbed as short-term expedient.

It is, of course, hardly surprising that knowledge should remain external (as *too* abstract) even if it is remembered beyond the end of the year, for the system makes it very difficult to establish the links with everyday life which make knowledge personal, and thus practical. Yet the course designers at the Open University and elsewhere have attempted to legislate in advance for unknown students and their requirements.

Designing a course which will have prespecified implications for the personal lives (domestic and industrial) of each of the thousands of students who may be taking it is clearly impossible—only teaching systems which allow students to shape the content of their courses for themselves (in consultation with others) can hope to foster personal relevance in education.

Open University-type systems offer instead courses aimed at fixed "objectives" which are chosen by course team academics on behalf of large numbers of unknown students—they can only offer courses with generalized relevance to anonymous "typical" students.

Nothing indicates more clearly the obsession with highly polished courses as an educational end product and a *necessary* disregard for real student interests that such teaching systems imply.

The most likely social effects of the Open University's teaching system may thus well be to *confirm* the status of its students rather than to lead to a change in it. As Ken Jones has pointed out recently in *The THES*, many Open University students are already upwardly mobile, and these people have their new-gained status confirmed and consolidated by an Open University degree.

For those students still in the lower social strata their experience as an Open University may offer only a final confirmation of what they have already been half-suspecting—that they lack ability to such an extent that even specially designed Open University courses are too difficult for them.

The Open University may turn out to be an extremely powerful conservative force, buttressing existing hierarchies in as effective way by offering equal opportunities to be judged in a subtly loaded educational situation. Isolated students, unable to get together to redefine this situation, must feel highly vulnerable to the explicit and implicit doubts about ability conveyed to them with their course materials.

The Open University is the prime example of a process of rationalization that seems destined to sweep through the entire system of higher education in this country.

Course contents will become increasingly oriented

When employers don't know their needs

Bernard Holloway argues that previous failures to meet predictions of graduate demand indicate the need to preserve flexibility in the content of higher education

It has recently become popular among politicians to suggest that the Robbins principle—broadly that of providing the courses which students want—might now be to some extent replaced by a process of manpower planning to meet the nation's needs.

But what are these needs and how can they be determined? Presumably, *at least to some extent*, we should be asking the employers of graduates what they want and what they will be wanting. How reliable might such a process be?

Leaving aside only those who graduate in medicine, dentistry and veterinary studies, nearly 30 per cent of all new graduates will be employed in education. Just over 20 per cent are employed in the public service, and about 30 per cent by industry, including public utilities. The remainder go into professions such as law, accountancy, architecture and so on, into banking, insurance, other commercial work and "other employment".

How successfully can industry, the professions or the public service forecast their needs? It was, I think, in 1969 that I asked the Civil Service's First Commissioner why the Civil Service did not seek actively to recruit more graduates to the executive officer level of entry, for which two A levels was (and *remains*) *the minimum acceptable* academic standard for direct entry.

He replied that this was because "we do not wish to have on our hands armies of frustrated and underemployed graduates". The facts are that in 1965, only 130 graduates entered this level of work; when the above words were spoken the figure was 373 for that year.

In each subsequent year the figures have been 516, 663, 1,208, 1,302, and 1,850 in 1974. Now a lower sixth-form schoolboy who, late in 1969, heard about what Sir John Hunt had said early in 1969 would have entered the university in 1971 and graduated in 1974, quite sure that the Civil Service was not going to want him at that level.

Yet in that year, 1974, between 25 and 30 per cent of all entrants were graduates, and we must assume that this proportion will continue to increase. The attitude of the largest recruiter in the country has evidently changed substantially within the space of time over which any change in educational policy could have had any effect.

Take now the profession of accountancy. During the past 10 years chartered accountancy has changed from an occupation with rather less than 10 per cent of graduates at entry (less than 500 per year) to one which has over 50 per cent graduate entry (over 2,000 graduates per year).

The profession now includes some of the largest recruiters in the country, with three or four firms apparently each recruiting more than 200 graduates in all subjects every year. Would the employers concerned have been willing and able to forecast these changes and give a time-table for them even a few years ago?

I well remember, I think it was in 1968, sitting in the central staff department of ICI, and being told that one of the mistakes ICI had made in the past was to allow recruitment of graduates to vary too widely from year to year, and that the failure to recruit sufficient over a particular period in the past had led to a nasty gap in the age structure of the staff.

"As a result we are determined in future always to maintain our graduate recruitment at a certain minimum level." This level was unspecified, but I think we both understood it to be probably between 300 and 400 per year, the highest figure of over 600 having been reached in the early 1960s.

Three years after that conversation ICI recruited a total of between 30 and 40 graduates, and over the last five years the figure has risen slowly to 260, this being the latest guess of 1976 requirements. No one now expects the figures for the early 1960s to be reached again for a very long time.

Again, over the period 1971 to 1974, the GEC empire increased its stated needs for graduate recruits from about 500 to about 1,100, many of these in physics, electronic and electrical engineering; note that 1974 graduates had filled in their UCCA forms before 1971 had dawned.

Over a shorter period of time, *there is the case of the well-known* British computer manufacturer who recruited 51 graduates from Manchester University in 1969, and one in 1970—that one man being a chemical engineer.

The 1976 edition of the *Directory of Opportunities for Graduates*, which went to press about June, 1975, listed the Post Office's 1976 requirement of all kinds of graduates at a total of 920; by November 1975 this had fallen to rather less than 50.

None of the foregoing suggests that the people responsible for these situations are villains or fools. But it does lead us to the conclusion that, however manpower planning is carried out, it cannot be done by asking employers, either public or private.

Not only can an unexpectedly large growth in graduate demand occur over quite short periods of time, but also an apparently established and regular avenue of recruitment can vanish away, as in the case, for example, of chemistry graduates for ICI in 1971-73, or university teachers from 1973 or 1974 onwards.

The triennial manpower surveys by the then Committee for Scientific Manpower were useful during the 1950s in revealing a large and *continuing deficit* in the supply of scientists and engineers, but as a state of balance approached, and the reports might have become useful for "fine tuning", the surveys took so long to appear that they were overtaken by events, or they just ceased.

So what are universities, as producers of graduates, to do about this? And what lessons should the Government and the nation learn from these kinds of considerations?

We should first, I think, notice that the Carnegie Commission, which has for many years put the process and overtones of higher education in the United States through a scrutiny incomparably more searching than anything which has been attempted in the United Kingdom, has reached the conclusion that "student choice, in the long run and by and large, is superior to central planning of higher education to accord with centrally determined manning tables".

This conclusion is reasonably likely to be true for the United Kingdom as well, not least because the fastest growing markets for today's graduates appear to be those which are non-specific in terms of the subject studied. For example, there is room for another 15,000 graduates in chartered accountancy and perhaps an extra 3,000 graduates in executive officer civil service each year.

Similarly industry and commerce, once their specific needs for scientists, engineers, and technologists of many kinds have been satisfied, *have a large entry* of graduates whose subject and style of study is thought by the employer to be of little importance.

This is not to neglect the fact that certain manpower shortages of specific kinds could cripple expansions, whether they be public, private, professional or commercial. Universities will have to continue to produce enough doctors, dentists, vets, pharmacists, research chemists, engineers of all kinds, teachers, *educational* psychologists, and so on (and even a very few economists), equipped with specific knowledge and skills for employment as "finished goods".

To this extent, the attitudes of university teachers (who under the guise of teaching pure subjects often are successful in producing graduates who want to "use the subject"), correspond fairly closely to national needs.

But for the rest, where *eliminating people are needed* with an understanding of the relationship between individuals and groups, between study and experience, between thought and action, between research and decision making, students who have read the subjects in which they are most interested are as likely as any to be what we need.

Some employers clearly have doubts whether the universities are the best or the only places to produce effective people. They will be able to quote Shakespeare on the side ("skelled o'er with the pale case of thought"), and also to the authors of that famous army advertisement.

But to the extent that graduates take a flexible view of the uses which their talents can be put, they will continue to be welcomed into the workforce. And *investment in* people who are willing to remain flexible over a working life of 40 years may yet turn out to be the best form of *unemployment playing*.

The author is secretary of the University of Manchester careers and appointments service.

The Post Office: stated graduate demand fell from 920 to 50 in five months.

Mature students go for social sciences—and excel in arts

Paul Walker discusses a survey of the performance of mature students at Warwick University

The popular image of a university student is a young person entering university directly from school with a string of A level passes. The older or mature student is regarded as the responsibility of the Open University, and is generally thought to be in his thirties or even older, a late developer who was only average at school, serious and hard-working, but not as gifted as younger students and rarely attaining their intellectual heights.

However, studies recently undertaken at the University of Warwick show that although mature students were a minority, they formed a significant group of students at the university. Further, the evidence suggests that the number of mature students is increasing.

From a modest beginning in 1965, when they accounted for less than 2 per cent of all new students, their numbers have grown annually. In 1971 at least one in every 10 students was a mature student, and more recently it has been estimated that approximately one student in eight arriving for the first time in October, 1975, was a mature student.

The information gathered for this study indicated quite clearly that the admission of mature students to the university benefited both the university and the individual. However, before examining the results of the study more closely, it is necessary to define exactly what is meant by a mature student.

The University of Warwick has actively encouraged the applications of mature students in its prospectus, and although the university defines a mature student as someone over 21 it implies something further.

Some students who are over 21 will arrive at the university with qualifications and educational backgrounds comparable to 18-year-old school-leavers, but others, for one reason or another, will have been unable to complete a normal secondary education, and will not have the required entry qualifications. Indeed, some older students may apply with no formal qualifications at all.

The university's entry system is flexible enough to allow for this, and in such cases the selection procedure might involve a submission of written work and a thorough interview. The following case history serves to illustrate how special consideration is given to the applications of unqualified older students.

Mr F. left secondary school to be apprenticed as an engineer at the age of 15 in 1960. At this time he had no formal qualifications. In 1964, while working as a non-qualified engineer, he took and passed two GCE O levels. In 1970 he was awarded a scholarship as a mature student to a college of further education to study liberal studies. He also enrolled to take two GCE A levels while at this college.

He *applied to Warwick* to read politics and was invited for an interview. Although his qualifications were not normally acceptable for entry, the university agreed to waive the entry requirement in this case in view of reports from the interviewer, and a reference from the college of further education.

Mr F was offered a place conditional upon obtaining specific grades in his two A levels. He satisfied the condition, was admitted to the university and in June, 1974, was awarded a lower second class degree in politics.

To obtain a wide idea of the position of mature students, a survey was carried out of 240 students aged over 21 who were admitted to Warwick University from 1965 to 1971, and an *analysis of those students* led to the following observations.

● The average age was almost 26 years.

● The students included remarkably few women. Only one in six mature students were female, and this was well below the proportion encountered in younger students of just under 40 per cent.

● There was a concentration of mature students in sociology, politics and philosophy courses, and approximately one quarter of all students in these courses were mature. Mature students were particularly successful in science subjects where typically only 2 per cent of students were over 21.

● Mature students were neither more nor less likely to leave the university without a degree than younger students.

● The degree results of mature students were significantly better than younger students.

● The degree results of mature students were especially impressive in the arts faculty (Table 1).

When older students were split into different age groups, those in the 25 to 30 group performed best followed by the 21 to 25s and the over 30 group. The degree results of the latter were appreciably less good than those achieved by the under 30 groups (Table 2).

● Over one half of all mature students failed to satisfy the normal entry requirements in terms of GCE and equivalent qualifications obtained.

● The degree results of unqualified mature students were, on average better than those of qualified mature students (Table 3).

The success of mature students could be accounted for in terms of a difference in motivation. Many graduates coming directly from school are given little opportunity to consider whether higher education is, for them, a suitable course, and there is doubt that some are willing or adequately committed to study, or are not under pressure to go into higher education by parents and teachers.

On the other hand, mature students will probably have spent a period in employment during which a weak motivation may not have survived. Taking up full-time study as a mature student can also pose considerable personal and financial difficulties.

In summary, the evidence from Warwick seems to justify especially the encouragement given to applications from mature students. In its undergraduate prospectus, the success of certain mature students is admitted with no formal qualifications suggests that we may still be some way to go before we reach the so-called "pool of ability", indeed such a concept is relevant at all.

There appears to be an upward trend in the number of older students enrolling at the university, but *are not in a* position to say whether this represents a national trend, but it emphasizes that the recruitment of this category of students deserves greater attention in the planning and running of higher education, a national and institutional level.

The author is research officer at the University of Warwick. A full version of this article appears in the current issue of Research in Education.

Wanted—a survival kit for English studies

John Holloway surveys the prospects facing the study of English as an 'elevating and humanizing' force, and concludes that defensive measures may be required to meet the Dark Ages ahead

Milton, Wordsworth, Arnold, Leavis: cultural landmarks in danger of extinction?

In the course of the last few months, I have changed my mind about the potentialities of English studies at university. It seems to me that a great change may be coming into our affairs. There is no certainty of this, but the danger is that we shall go on as before *until it* is too late.

What I have to say may well apply to other arts subjects, perhaps to all. But I think it applies especially to English, because I have long been among those who ascribe to English a special role. I have argued this before now, in these columns or elsewhere; and of course others have done so before me and better.

We can take the idea back to Matthew Arnold, who, at the very beginning of his career, in his first *General Report on Schools* (1852) puts the case in plain though curiously dated words:

> "I am sure that the study of portions of the best English authors . . . might be made a part of [the] regular course . . . to a much greater degree. . . . Such a training would tend to *elevate and humanize* a number of young men who at *present*, notwithstanding the vast amount of raw information which they have amassed, are wholly uncultivated."

Today, well, the old men as well as the young are in a difficulty: but Arnold understood. The frequentation and study of major authors *writing in the native tongue is not a* specialism and professionalism, but a great force (potentially, I believe, the greatest) enlarging, deepening and vivifying comprehension of experience as a whole.

That comprehension demands feeling, imagination, compassion. The master-works of the native literature supply and evoke all those in ways that the social sciences, even history, do not. At every level, not simply that of a privileged ruling group, but from the world of statesmen and ambassadors to that where obscure individuals modestly sustain *the quotidian* quantity of our regional life, literary studies have lit in their gift to establish a lifelong nervous keenness of perception and generous largeness of response. This lies behind their central place in school and university. Literature is what Milton called it, "precious life-blood".

There at any rate is the idea. I suppose it is familiar enough. In a more general form it is a guiding idea, well before Arnold, in Shelley's *Defence of Poetry*; and an essentially related conception, of the need for a "learned and philosophic public" (philosophic being used in a wide sense) to correct an "*overbalance* of the commercial spirit", is central in Coleridge's 1817 *Lay Sermon*. I mention these points because they show not only the age and firm-rootedness of the idea itself, but also how it belongs to what is best in both our radical and our conservative traditions of educational and social thought.

This general conception of English at the university undoubtedly creates certain requirements about how a syllabus is arranged; I take a common-sense notice them, although I shall be arguing that they may now have to go. It requires that study of the native literature shall extend firmly and substantially into the contemporary period, in which the student will live and into which the energized and "humanized" contribution will therefore in the end be made.

It does not in the slightest degree relegate medieval and other early studies, but it calls for a quite special dexterity and amplitude of mind over them, enough to sustain for the student how the great medieval text is no mountain of immemorial intricacy, but, from its very remoteness, a challenge to our own time and *perhaps a humiliation of it*. Also, the idea that English studies are the great elevator and humanizer calls for close and substantial attention to current English as a language: that is all we have, or our students will have, in which to match the contribution of the past by writing in the present. If the instrument is going to pieces, the work it is to do will not be done.

It is good to enlarge on these fine thoughts, but now it begins to leave a sense of unreality. Even among ourselves, English as the great enlarger has never caught on as widely as it should have. Perhaps there has been something wrong with each of its two greatest advocates, Arnold and Leavis. Arnold's "elevated" tone him in the wrong, his tone was lofty and patrician even for his own times. Today, that is wanted less than ever.

Lip-service is paid to Leavis's insight and genius, or to the seriousness of his claims for literary study, and there is much relish for gossip about his wrongs (real or otherwise) his *bêtes noires*, or his complex personality. But so little *heeding*.

The question is whether to think of the role of the English department in the terms I have outlined, is becoming grandiose, inept and doctrinaire. Why?

One could argue this out the long way, or suggest it a short way. In full would come the reasons for thinking that within 20 years we shall see a recession in arts departments on a scale not presently really quite undreamed of. What, after all, were the original sources of our national wealth, the foundation of our strong, highly trained departments, our lavish endowed students?

Natural resources beyond other nations; advanced and prestigious managerial and *artisan-skills beyond other nations*; an unrivalled marginal productivity of capital; a geographical situation exceptionally favourable for commerce; a mercantile marine dwarfing all others; a varied and strenuous intellectual life; a self-confident, industrious and (in Great Britain) cohesive population, and above all, perhaps, *greed not rampant*. What is left of that?

In universities, I think we still suppose that cuts are temporary and improvements part of the natural order. But I am giving that up. I drafted these words before the government White Paper on Public Expenditure came out; but scarcely a day passes without some further detail of evidence to add to the picture.

The short way of making the point would be to put it personally: two recent experiences that set me thinking about how for things could go. When the cuts came to my faculty at Cambridge the first response (standard present doubtless) was a directive forbidding us to fill any assistant-staff post that fell vacant. In a big science department with fifty assistants, that is perhaps just a troublesome administrative procedure. In an arts department with five, you are on the brink of destruction.

In a small enterprise, non-replacement even for a short period can make life unendurable. If those who remain then start to leave, too, it snowballs and the constructive work of a decade can be swept away in a month. It would all be just one further example of how, everywhere, today's procedures and reforms are worked out for the large-scale, routinized institution in mind. What is small-scale has to fit in or fail, the planners and legislators are too busy to want to know.

The fears I then had were not realized. Top administrators, assistants, one and all, came out of it gratifyingly: but it was plain and glaring what could have happened instead. The other experience that set me seeing how far what I fear could go was just something about my bicycle. I happened to find out what my cycle-shop charges per hour for mending a puncture (that does not, of course, all go to the mender). It was not quite half as much again as a university professor's net hourly earnings. This too set me thinking.

Clearly, one has to go on earning one's pay, *which means* working a right number of hours or something. But—financially speaking—it now pays much better to spend one's evenings and weekends mending punctures, house-painting, repairing the plumbing, what you like nearly, than contributing books and articles to that current of living ideas, and intellectual life, a self-confident, industrious and (in Great Britain) cohesive population, and above all, perhaps, *greed not rampant*. What is left of that?

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Independent colleges to form pressure group

Small independent colleges, the sector of American education most threatened by inflation, falling student numbers, and soaring fees, are to band together into a new association to lobby for support and money.

At a meeting in Philadelphia last week, about 300 college presidents and representatives, mainly from liberal arts colleges with less than 2,000 students, voted to set up the National Association of Independent Colleges and Universities. The association will join more than a score of similar bodies in Washington which lobby, often very effectively, for various education interest groups.

Small colleges feel strongly that unless they can put their cases more effectively there will soon be no place for them. Thirty years ago half America's students were at private colleges, and the rest were in state institutions. Today the figure for private colleges is about 23 per cent, and it is expected to fall to about 15 per cent in the next decade.

"We're losing, and it's time to quit talking about whether we need help — clearly we do", said Dr William Proctor, president of Flagler, a private college in Florida. "If we're going to lose this battle, we're not going down without a fight."

The colleges mostly belong to several organizations representing the liberal arts and private institutions, but they have increasingly felt that no group speaks exclusively for them. The new association will include among its directors two of the most forceful and dynamic figures in private education at the moment: Dr Steven Muller, president of Johns Hopkins University is to be chairman of the board; and Dr John Silber, president of Boston University, will be one of the directors.

Dr Proctor said he believed a prime task for the association would be to persuade state legislatures to stop the proliferation of public universities. This left little money and too few students for the private colleges, which were essential to the diversity of American higher education.

Dr Silber said that with the decline in birthrate, there would be about a million less students in colleges by the mid-1980s. "There will be academic ghost towns all over America", he said. "It will not be possible to save all the private colleges."

Student reports rule sent for revision

Regulations concerning a Congressional Bill that has caused universities more confusion and irritation than almost any other have been unexpectedly sent back for further revision by Mr David Mathews, Secretary of Health, Education and Welfare.

The regulations deal with the Buckley amendment, allowing students access to their personal files at colleges and universities. The amendment was originally proposed, in January last year, almost as an afterthought, by the Conservative Senator James Buckley. It was tacked on to the 1974 Education Act and immediately raised a storm of protest.

There were fears that by allowing students to see confidential recommendations, teachers and counsellors would write increasingly bland and non-committal reports knowing that these might eventually be read by the students concerned. Universities in turn would place increased emphasis on grades and test scores in admitting new students.

Many universities found the wording of the amendment unclear. Princeton's lawyer, for example, had to contact the Department of Health, Education and Welfare several times before the university understood exactly what was included. In the past year the department has received some 10,000 similar queries from colleges, and about 90 formal complaints of denial of access to records or unauthorized release of records.

Eventually the amendment had to be rewritten to clear up the ambiguities. Students cannot now see recommendations written before the Buckley amendment became law.

Mr Mathews did not say last week why he would not sign the regulations. There is speculation that he is worried by the precedent they would set.

Under the amendment, students are able to sign a certificate waiving their right to see their records. Nevertheless a number of schools are now stamping university admission forms with a statement saying they can no longer provide an evaluation because of the amendment.

Virginia storm over race bar club

A row at the historic University of Virginia over the university president's membership of a racialist club has been defused by his resignation from the club last week.

President Frank Hereford was a member of the Farmington Country Club, an elegant building designed (like the university) by Thomas Jefferson. The club, however, would not admit blacks as members or guests.

Mr Hereford drew up a petition, signed by 400 club members, that the club admit blacks as guests, but the board overwhelmingly rejected the petition last Monday and Mr Hereford, together with the rector of the university and a former president, promptly resigned.

Diefenbaker papers fund does well

The University of Saskatchewan has raised more than a quarter of the $1 million it is seeking for a centre to house the papers of Canada's former Conservative Prime Minister, Mr John Diefenbaker. The money has come from private contributions.

The centre is due to be opened by Mr Diefenbaker, who is now 80, in September. It will house all the records of Mr Diefenbaker's premiership from 1957-63, as well as an Institute of Northern Studies which will deal with Eskimo affairs.

The university has been given a grant by the province of Saskatchewan in addition to the public appeal. Construction of the building began last year.

'Modulized' maths to beat the calculator

While the debate about the declining writing ability of students gathers momentum, fresh evidence of falling achievement in mathematics is also stirring controversy.

As with the writing problems, all kinds of causes are suggested: poor discipline in schools, not enough homework, confusion over standards and goals. But two extra factors have been blamed for a particular decline in mathematics: the introduction, rather half-heartedly, of new maths, and the sudden widespread use of pocket calculators.

San Diego State University believes it has found a solution: what it calls the "modulized" system of instruction. Each year students arrive more poorly prepared in mathematics, says Professor Herb Gindler, from the Department of Mathematics. But increasing numbers need mathematics as more and more subjects apply mathematical techniques to their problems. Also, precalculus remedial courses are usually taught by the least experienced teachers. So the solution calls for individual instruction.

Most teachers, Professor Gindler says, think this means audio-tutorial instruction, study skills centres, and systems requiring expensive equipment that cannot be bought in present financial circumstances. Mathematicians especially fear this would lead to a dilution of the subject matter with a whole range of mini-courses.

But San Diego has worked out a scheme that uses only available facilities and does not lower the passing grade.

The module system divides up the course—in this case intermediate algebra—into 18 parts. Students have to show they can manage each unit before passing on to the next, and they receive the study guide for the next unit as a "reward" for passing the previous test. "Mastery" of each unit is set at 90 per cent, with a minimum of about 70 per cent correct answers.

"Proctors"—usually other undergraduate students—grade tests and do a certain amount of tutoring. Each student chooses a proctor at the beginning of the course, but can have his test graded by any other proctor. He has to attend class at least once a week.

The study guides tell students how to master particular objectives, but the scheme does not include any lectures, nor even for motivational purposes. Students do not want these, Professor Gindler says, they are already behind in their mathematics, and are too busy learning the material to waste time on "non-essential frills".

A computer sets the tests for each unit. Some 3,000 questions were written and fed in, and the computer can set a different, though equivalent, test for each student if necessary. There is no expensive audio-tuition, and San Diego has found that it can handle 90 or 100 students an hour in two standard classrooms.

Students take the tests whenever they feel prepared for them. Repeats are allowed if necessary. Other colleges and universities in the California state system make use of the test bank, and at least four are planning to use the tests and study guides to individualize their own precalculus courses.

Ultimately San Diego wants to match the course objectives with individual students' educational goals, individualizing the content as well as the pace of the course. Content would then depend on a student's needs—someone majoring in chemistry could be given more work with logarithms, for example, while psychology majors might need only the algebra necessary for statistics.

San Diego introduced the scheme in summer, 1974, and in a report last week said the initial results were rather gratifying. Students did better on the group final than their counterparts in the traditional classes, and 62 per cent said they preferred the module system. The "proctors" were highly praised, and they in turn regarded the teaching experience as one of the most valuable in their college careers. The university is now individualizing sections of other remedial courses in algebra and trigonometry.

Williamsburg, Virginia: echoes of a colonial past.

Sir Peter soothes 'rebels' of a colonial-style campus

A call to Americans to retain their self-confidence was made last weekend by Sir Peter Ramsbotham, the British Ambassador to the United States.

Speaking at a Charter Day ceremony at the College of William and Mary, in Williamsburg, Virginia, Sir Peter told his audience: "Do not neglect the fact that America is the leader of the Western world, and that we shall be looking to some of you in this hall to lead us, in the years to come, to the assurance of a more contented life."

Britain and America, he said, represented a structure of stability on which the free world could base its hopes for the future. Their long association, shared wisdom, and deep respect for law and liberty, provided a fund of strength. As the younger and more resourceful partner, America now carried the main responsibility on her shoulders.

Sir Peter received an honorary degree at the college, founded in 1693 and—after Harvard—the oldest institution of higher education in America.

In a witty and well-received speech, he said Britain would mark America's bicentennial year by focusing on the country's history, endurance and determination, and "the compassionate idealism which has informed this country's assumption of her responsibility as a global power". He had been asked, he said, by President Ford and others, why Britain should remember her own defeat. His reply was that the country had no hard feelings, and felt no embarrassment in joining in the celebration of one of her defeats—"being so few in our history, they are that much more memorable".

The ambassador said King George III was a much maligned man, and he put forward the thesis that there was no revolution in 1776, the accepted sense—only a rebellion. "There was no class upheaval, there was no overturning of social or economic values, there was no universal burning desire for a new political system." The colonists sought independence because it seemed the only way they could maintain their rights as Britons. It was not an act of political rejection, Sir Peter said.

But the British connexion is particularly strong at Williamsburg, and the college had preserved with affection and enthusiasm all the colonial colleges, as William and Mary had retained its loyal name. And in spite of a comparatively small student body, the alumni association in Britain is larger than any other American university or college.

At the ceremonies, the college also honoured one of its first British undergraduates since 1776 by conferring an honorary degree on Professor Jack Morpurgo, Professor of American History at Leeds University, who presented the college with the first official history which has been published. An honorary degree was also conferred on Leon Jaworski, the former Watergate special prosecutor.

The charter day ceremonies dominated this year by the Bicentennial and by British tradition, exuded sincere, patriotic and almost smug pride in the college and its academic tradition.

The rows of professors in academic dress, the robed choir of the college, the special presentation of good teaching awards—all this was a far cry from the cynicism that has settled over most of America's campuses. It was a piece of Elizabethan pageantry unthinkable except, perhaps, in Oxford or Cambridge.

'Too small' university poses a problem

Within the next few days the new British Columbia government in Canada will announce its proposals for a university whose future was the subject of considerable debate for the past seven years.

The new government of the Social Credit Party, which came to office last December, has to decide what to do with Notre Dame University, a 20-year-old institution in Nelson, a town in the sparsely populated south-east of the province. Notre Dame, with 550 students, is too small to continue on its own, too far away from the coast to join up with the universities there, and too important to the development of higher education in the province's interior to close.

The previous government of the New Democratic Party wanted to make Notre Dame the first of four campuses of a completely new university, the others being on Vancouver Island, in north central British Columbia, and in the Okanagan area near the United States border. The new government has not renounced this, but has asked the British Columbia University Council to advise the new Minister as a "top priority".

The province has been discussing the university's future since 1972, when the university, then a private Catholic foundation, asked to be taken over by the province. Last month, the new government announced that Notre Dame would come under the authority of the University Council instead of being financed directly by the Ministry of Education.

Notre Dame now offers a range of courses in arts, science and education, but is limited to only 40 teaching staff. Student numbers have not increased for the past few years. It would like to become a "university of the interior", but the government has not outlined its policy. In Notre Dame, George, the university president, has spent some time in the provincial capital but there is a feeling that the government is dragging its feet on the issue.

British Columbia is not the only province faced with the problem of very small colleges with a rapid fall in student enrolments. At the other end of the country, New Brunswick is trying to work out an orderly consolidation of several small French-speaking colleges into a single viable Francophone university.

France

Wave of strikes in row over reforms and cuts

NICE

A wave of strikes and demonstrations has swept French higher education in recent weeks, causing considerable disruption in a number of universities. Although incidental austerity policies. Despite students are frequently isolated, the disturbances illustrate a growing malaise among students and academics.

The commonest cause for the unrest has been the projected reform of the second cycle of university studies (third and fourth years) due to be implemented in October (*THES*, February 13). Students at the universities of Nantes, Tours and Rennes have been on strike over the past month in protest against the plans. The reform, they claim, will entail the devaluation of existing national diplomas, the intensification of selection into teacher training courses, and the further subjection of university teaching and research to economic and industrial interests.

At Tours, the situation has been further aggravated by staff protests against a massive job shortage. Over the past six years the number of students in arts subjects has leapt from 500 to 5,000, although there has been no corresponding increase in administrative and teaching posts. Recently all university offices were closed to students and staff for three weeks to allow the administration to catch up on a six-month backlog of work.

In addition the president of the university, M Bernard Chevalier, has now resigned office after a political wrangle within the university council. However, M Chevalier laid the blame for his decision on the system of higher education as a whole, complaining that the rigidity of university structures and current financial impoverishment were making academic development impossible.

Another university head, M Rolan Perez, at Amiens, has also resigned his position as vice-president of the National Conference of University Presidents in protest against ministerial austerity policies. Despite formal promises from the Secretary of State for Universities that three research centres in neuro-psychology, semi-conducting materials, and pluri-disciplinary studies would be set up urgently at Amiens, only one centre—the cheapest—has been allocated the necessary funds. Ministerial dishonesty, M Perez stated, is endangering the whole concept of the university as a public service.

At Toulouse-le-Mirail, in south-west France, a White Paper recently published by a consortium of teaching and administrative unions draws attention to what is now a chronic situation at the university. As a result of internal squabbles and ministerial intransigence over election procedures, the university has been without a president and council for more than 18 months.

It is also claimed that financial strangulation and the shortage of jobs is threatening both teaching and research activities.

Originally heralded in ministerial circles as an "exemplary university", Toulouse-le-Mirail was built quickly and cheaply in 1970 to accommodate more than 10,000 students. Now, however, maintenance costs and repair bills are absorbing an ever-increasing proportion of university funds. Heating alone is said to cost £1,700 per month, more than the university library's annual spending on books and periodicals.

In conclusion the White Paper claims that the problems at Toulouse-le-Mirail are not merely local issues but are part of an institutional crisis stemming from a deliberate Government policy to run down the universities.

Norway

Study centres get boost

from Mike Duckenfield

STOCKHOLM

The continued expansion of Norway's district college study centre system, including the opening of the eighth of the projected 17 new institutions this autumn, and a relative standstill in the growth of the four universities, are to be the main features of government post-school spending this year.

While expenditure on the centres is to increase by 26.3 per cent to about £5.6m, spending on the universities, specialist colleges and research as a whole is to rise by only 12.1 per cent—to just over £17m—and that on the universities alone by 11.4 per cent, almost all of which will be accounted for by increased salaries.

The recently adopted annual budget, which outlines financial policy for the current year, envisages a 13 per cent increase in student places at the study centres, bringing the total to 4,295, and a 10 per cent rise in the number of administrative and teaching staff to 346.

This will mean that the centres, which offer basic university courses and mainly two-year vocational training, will have an overall 1:20 ratio between lecturers and students. However ratios at the newest centres—in the Bergen region spanned last autumn, and at Alta in Arctic Norway—are considerably lower. A ninth centre is also proposed for the county of Østfold. Although the past five years have seen a 5 per cent increase in student numbers at the universities, expansion has now almost come to a halt and this year student numbers are to increase by only 2 per cent to a total of 41,040. This will mean no growth at all at Oslo University, which already accounts for a third of the total numbers, average growth at Bergen and Thomas, and a 3 per cent rise at Trondheim. Similarly, university staff numbers are to go up by only 1.2 per cent to a total of 7,127, with half of the new appointments going to scientists. In addition, university salaries are anticipated to rise by 5.7 per cent against the average of 5 per cent expected nationally.

Sri Lanka

Teacher unions to avoid politics

COLOMBO

Teachers' unions on the six campuses of the University of Sri Lanka have formed into a federation called the Sri Lanka University Teachers Union Federation.

The federation has said that, while working for the improvement of the professional status of university teachers, it will extend its fullest cooperation to the university authorities and, steering clear of politics, lend its unstinted support to the attempts being made to make the university a truly national institution rendering maximum service to the nation.

Republic of Ireland

Irish plan for 'free university'

from Peggy Barlow

DUBLIN

Proposals to establish a Free International University for Creativity and Interdisciplinary Research in Ireland, funded partly by the EEC, are being publicly aired at a press conference in Dublin this week.

The proposals are based on a new version of a study on the feasibility of the university, first commissioned by the EEC. The initial team includes Dr Joseph Beuys, founder of the Institute for Social Research and Development in Achberg (who was dismissed from the Düsseldorf Academy in 972 for defying the ruling restricting entry to higher education), Heinrich Böll, the Irish novelist Francis Stuart, Dr Taplo Varis of the University of Tampere in Finland, and Carolino Tisdall, of *The Guardian*.

It is anticipated that the initial intake of students will consist mainly of those who have some knowledge of, and interest in, an inter-disciplinary approach, and a number of would-be-applicants have apparently been in touch with the trustees already. There will be no age limit for students, and although the university will offer accreditation it will not provide degrees or post-graduate qualifications as such.

There will be no formal examinations, and the student's attendance will be gauged only by "the length of time it takes (him) to evolve an independent model of thought, a grasp of the comparative method, and the ability to apply these to research and practice."

Teaching and learning practice will be based around seminars, workshops, research projects, community discussions, conferences and publications.

The organizers—who base much of their thinking on the manifesto issued in Düsseldorf in 1972 by, among others Beuys and Böll—argue in favour of siting such an institution in Ireland on the grounds that it is a small country in which there would be the maximum interaction between the university and the community, and therefore a maximization of its affect on Europe as a whole. They point to Ireland's history of resistance to standardization, especially in cultural terms, and suggest that this is due to its background of cultural domination.

They go on to suggest that in the context of the Free University the violence in the north should be seen as a challenge and not as a disincentive, a challenge to which the university's interdisciplinary approach would be peculiarly well suited.

The organizers estimate that the first year's budget would be about £160,000.

Israel

'Maintain standards' plea despite crisis

from our correspondent

JERUSALEM

The universities are "sparkling jewels in the diadem of Israel", declared Mr Aharon Yadlin, Minister of Education and Culture, at a recent symposium on higher education in Israel. Their authority as centres of excellence must not be undermined. Thanks to the universities Israel, a small country, is a power in international scholarship and research, he said.

He deplored the anti-intellectualism which has become fashionable, even among members of the Knesset (parliament), in these times of economic stress.

Mr Yadlin was giving the inaugural address at the symposium which was arranged by the Planning and Grants Committee of the Council for Higher Education. Although the symposium was planned early in the autumn, the economic crisis still cast its shadow over it.

Mr Yadlin quoted fairly extensively from *The THES* to show that Israel's plight was not unique, although that was cold comfort. The creation of the Planning and Grants Committee in 1974, he said, was one of the best things that had happened in Israel in the last two years. Had it existed in time of plenty, the universities perhaps would not be in their present position.

Universities had to become more efficient and more co-operative. Administrative staffs, the ratio of which to academic staffs was 10:7, needed pruning. Salaries should be frozen except for the cost of living allowance. Tuition fees would have to be increased considerably. Research money should be actively sought from other than public sources, particularly from industry. Sabbatical leave taken in the country would save foreign currency and academics should use it in helping to solve some of Israel's major social problems or working in industry.

Despite financial exigencies, the universities must keep up their high standards. They must also help more young people from disadvantaged families, mainly from Islamic countries, who have academic potential, to make university grade. They should also be more open to mature students, and should attract more foreign students, particularly Jews.

Mr Yadlin said that he did not lay much store by student-teacher ratios. If the universities were to be centres of scholarship they must welcome first-class scholars and brilliant young researchers, including new immigrants, irrespective of ratios.

The symposium had three main topics: higher (university) education and society; higher education's part of the nation's financial resources, and quantity versus quality.

Three non-academics were more critical than Mr Yadlin. The chairman of the Committee of Ministers for Social Welfare, Mr Shlomo Hillel, and the chairman of the Education and Culture Committee of the Knesset, charged the universities with failing to help the country solve its basic social problems, while a member of the Knesset Finance Committee warned the universities to prepare for worse and threatened that if they could not trim their budgets the Finance Committee would do it for them.

There were the usual divisions: for and against a university for the elite; education for education's sake with possible resultant frustrations or career-oriented education; the advisability of a university having two separate tracks at first degree level—one the college (American style) track and the other the university-research track.

There was general agreement that the universities could not be exempt from the results of the economic crisis, that there must be much setting of their own houses in order and large-scale cooperation between them to avoid unnecessary duplication.

Professor Haylm Ben-Shahar, an economist and president of the Tel-Aviv University, advocated smaller cuts over a period, and planning that took such cuts into consideration, rather than single but heavy cuts. Opponents of the idea contended that this invited cuts.

The claim by Mr Amos Horev, president of the Technion, Israel Technical Institute, that his institution deserved preferential budgetary treatment because it prepared the experts that Israel's economy needed, was vigorously rejected by Mr Matti Megged, a writer and a lecturer in literature at Haifa University, and by Mr Avraham Harman, president of the Hebrew University. Without the humanities and arts, there would be no technology, they said.

European link on communications

Six European nations, including Britain, are to spend £9.6m a year in setting up, and £640,000 a year in running, a 13-year research project to investigate the communications properties of the atmosphere between 37 and 620 miles above Arctic Scandinavia.

Other studies are to be built at Sodankylä, Finland, and at Ramsfjordmoen, near Tromsø University, Norway. It will be the first project of its kind so far north.

Centred at a radar receiving station to be built at Kiruna, Sweden, the EISCAT (European Incoherent Scatter Facility) project is to be financed by Britain, France, West Germany (25 per cent each); Sweden, Norway (10 per cent each) and Finland (5 per cent).

West Germans look ahead to shrinking staff requirements

from Günther Klass

BONN

The Wissenschaftsrat, West Germany's semi-independent, advisory Council for Humanities and Sciences, where Government representatives collaborate with independent members from the academic community and from public life, has recently carried out a survey of staff in institutions of higher education. The survey forms part of its recommendations to the Federation-States Planning Committee for University Buildings, in preparation for the building programme for the years 1976-79.

The council reviews the expansion of all categories of posts between 1960 and 1972, during a phase of rapid expansion which went hand-in-hand with more frequent promotion. Like the recent AUT survey, the council's deliberations form the basis for forcefully that the prospect of advancement, especially to academic posts with tenure, will be severely reduced in future, especially up to 1985.

Taking all categories of academic staff together, the number of posts quadrupled between 1960 and 1974. Although over the same period student numbers approximately trebled, and many new posts reflect understaffing in the past or were made necessary by course or university reform, the staff-student ratio improved substantially from 33.5:1 in 1960, to 19.5:1 in 1974.

However, this vigorous expansion, which meant an average annual growth in the professor/reader/senior lecturer/established lecturer grades category of approximately 11 per cent between 1960 and 1972, and 15 per cent in the junior lecturer grade, has resulted in a considerable change in the age structure of academic staff.

The highest proportion of senior staff is now aged between 35 and 45, while the peak in the junior lecturer grade is at 35. The average age of all senior staff was 44.9 years in 1972, compared to 50.5 years in 1960. The 40 to 50 age group in 1960, which is due for retirement in about 1980, is exceptionally small.

The Wissenschaftsrat also attempts to calculate the likely demand for university teachers up to the year 2000. Considering replacement only no more than 500, or 2.3 per cent, new senior staff (with, of course, variations from subject to subject) will be required annually between 1975 and 1985. This figure will grow to around 900, or 4.3 per cent, towards the end of the century. The prospects are even bleaker for junior lecturer vacancies, which are estimated to amount to a mere 1.2 per cent, or 110 annually, between 1975 and 1985, rising to something like 200 to 400 towards the year 2000.

Even if additional posts should be created, the council's predictions, based on various models of expansion, show that the new posts available will fall far below the 2,000 professors, readers, senior lecturers, and established lecturers annually to which German universities have been accustomed in recent years.

Further expansion is certainly envisaged for the current four-year period, but all Länder governments are at present imposing drastic cuts on university posts and renewed calculations are being undertaken on existing students capacities of the German universities.

The situation is especially serious for the category of temporary assistants (postgraduate students, demonstrators, etc) which constitute the principal reservoir for the recruitment to the two other main groups. There were 20,500 of these in 1972. These numbers not only increased rapidly during the expansion period 1960-72, so that more than half of them are now under 30, but the substantial reforms of the teaching staff structure have also given them a more independent position in the German university system. Their chances of an academic career, to which their work is primarily geared, will now diminish substantially. Furthermore, they will not be the only group wanting to fill the reduced number of permanent posts available at junior or senior level. Other research workers and applicants from outside the university system, often with more experience, will compete with them.

The Wissenschaftsrat puts forward a number of recommendations in order to improve this imbalance in the age structure and the bleak promotion prospects. One is to distribute the already-planned expansion of staff up to 1980 over a longer period, in order to preserve a certain continuity in new staff appointments. This must be accompanied by a stricter appointments procedure below the level of full professor, and a slowing down in the conversion of posts in the formerly non-university institutions of higher education to full professorships.

The council also pleads for greater mobility of staff between universities and outside research establishments and industry; the creation of more temporary and visiting professorships and lecturerships which would alleviate the short-term staff shortage; the employment of more tutorial assistants; and the more determined use of extra-university media, especially television and radio.

In conclusion, the council warns against capacity-calculations which stifle initiative and flexibility from within the universities themselves. Such assets will be needed more and more.

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The survival of an ethos

The siege mentality that has seized many in the universities in the face of severe economic pressures and politicians' demands for crude cost-benefit assessments of university productivity is well illustrated by Professor Holloway's article on page 11. His vision of students queuing in libraries to take their turn at reading the one copy of *Middlemarch* or *Pride and Prejudice*, potential lecturers in English flocking off to join the guild of bicycle repairers, while those who stay for-age the countryside for firewood, and walk to work presumably because they cannot afford the bus fare, hopefully will not come true, though there is nothing to be complacent or even optimistic about.

Professor Holloway pictures the situation from the point of view of his own discipline, English, which he feels has a special role, in the words of Matthew Arnold "to cherish and humanize", to counter the commercial spirit, but which is the more vulnerable to the cost-benefit arguments because one cannot measure the degree to which a student has been humanized or even not carry out a social survey to discover how the generous spirit of an individual benefits "society".

He is also disturbed by the fact that outside the university the conception of English studies embodied by Arnold and Leavis has not caught on, thus making it the more difficult to justify its continuance. These are important points, all of them, but surely they apply to most disciplines, and to universities as a whole. Historians, classicists, sociologists would argue that at least one aim of their respective subjects was to humanize and elevate, not just to add a quantity of raw facts. Nor have the content of most university disciplines "caught on" in the sense of being part of the common knowledge of the majority of the population. Quantum mechanics and the Whig interpretation of history are as little known about as Arnold's ideas of the best English authors. And all departments too, are affected by the exigencies of the economic situation.

The question is what is the best response to this situation. (Saving paper and turning off the lights are a good idea not so much for their effect on budgets which is likely to be minimal, but for engendering an atmosphere of thrift.) The first response must be to uphold the main purpose of the university, what Edward Shils has called "the academic ethos", the pursuit of truth and scholarship in the humanities and sciences.

This does not mean pursuing an arid pedantry nor adopting a rigidly conservative stance in the face of social change. In the words of Professor Charles Frankel, which Professor Halsey quotes in his review of *Universities in the Western World* (page 18): "There's a need for thought, specific and substantive about the shape that our education should take in a world that is radically different from that in which universities on the old model emerged." And he goes on, and this is the crucial point: "But there is a need even more, to demonstrate that, whatever the forces of political factionalism, there are men and women in the universities who do not make up their minds about what is true by asking which faction will be served."

A modest proposal

The proposals, disclosed in *The TIMES* last week, that all college and polytechnic teachers should be trained should not be difficult to implement. It is therefore surprising that the subcommittee of the Advisory Committee on the Supply and Training of Teachers, under Professor Norman Haycocks, which compiled its work last June is still awaiting a comment from the Department of Education and Science. It is even more surprising that the Advisory Committee on the Supply and Training of Teachers still thinks that the report should remain confidential.

The proposal, even in the climate of 1976, is modest. It simply tries to ensure that after 1981 all lecturers entering polytechnics and colleges without three years' full-time teaching experience would be trained. It is proposed that short in-service and induction courses should be extended for existing lecturers, starting as soon as possible. It is also proposed to limit the provision of one-year pre-service courses to five institutions, four colleges of education (technical) and one university college, for the time being.

The report also discloses how few of the academic staff in colleges and polytechnics are trained, even though they are primarily teaching, as opposed to research, institutions. Only one in three of the 66,500 lecturers employed in 1975 were trained. The sub-committee's estimate of 90,000 lecturers needed in 1981 could now be too high. Even so, the proportion of untrained staff could well rise rather than fall over the next five years.

One reason for delay could be cost. Yet it is surely as cheap to start a training programme for college lecturers as to give skilled staff in colleges and polytechnics redundancy pay under the Crombie Code. Bristol Polytechnic, enlarged by Redland College, Avery Hill, and Wolverhampton Polytechnic, enlarged by three colleges, are just a few of the centres that have skilled staff able to offer in-service courses. Mr Mulley could even become the first minister to ensure higher teaching standards throughout the public sector.

LETTERS TO THE EDITOR

Sociology split

from Dr Bleddyn Davies

Sir,—Professor McGregor (*THES* February 6) was right to concentrate on Dr Wakeford's assumption that the British Sociological Association knows what is best for the development of social administration. Only if one assumes that social administration is primarily a branch of sociology can one argue that the present arrangements are appropriate for the development of social administration.

It is clear from the two lengthy discussions held at last summer's meeting of the Social Administration Association, in which only a very small minority indeed of members did not vote for the proposal to split the committee, that social administrators believe that we have as much to gain from other subjects as from sociology.

This is so for two reasons. First, much of the research on social administrators on social policy focuses almost wholly on the types of issue whose investigation has been developed by other disciplines.

The intellectual framework for much of the work is drawn far more from political science or economics than from sociology. In 1975 more social administrators published papers in *Policy and Politics* than published papers in the *British Journal of Sociology*. The development of policy science is strengthening the connexion with political science, as is the increasing interest of political scientists in other forms of policy analysis.

Moreover, the literature linking social policy to economics has been growing as fast as the sociology of welfare. Much of what is published by social administrators is clearly *applied economics*—as it should be since so much policy analysis focuses on the allocation of resources.

Second, perhaps what distinguishes so many issues which are the subject of *applied* policy analysis research is that a monodisciplinary approach is inadequate. I am not here arguing that social administration is capable of some general synthesis of sociology, economics, political science and psychology within a single paradigm (as your letter from Mr Bullman, (*THES*, February 6 implies) but simply that social administration has a tradition of intellectual eclecticism which is encouraged in the social administrator to use a variety of disciplines within a single piece of research. This is extremely valuable.

In short, the decisions of the SSRC committee must reflect the intellectual strengths and weaknesses of its members. Of the committee's nine members, only three are social administrators. Sociologists cannot claim to have the breadth of scholarship in the social sciences and the range of expertise in areas of British social policy needed to make judgments about research priorities in social administration.

I do not see how a committee could do its job properly without a much larger number of social administrator members with close contact with each of the main fields of social policy and some knowledge of those areas of other social sciences that social administrators use.

As the committee is now constituted, it seems inevitable that its membership will inadvertently make judgments that will penalise social administrators who see the aim of their research to be *applied* policy analysis; particularly those wishing to continue in the social administrators' tradition of intellectual eclecticism, those whose policy analysis owes its quality to the depth of understanding of policy contexts, and those whose framework of analysis draws most from disciplines other than sociology.

Of course, the creation of separate committees for sociology and social administration is only one way of dealing with the problem. There could well be other administrative devices that would be both more congenial to some and quite as effective in securing an adequate range of expertise in social policy. We must all hope that we can find a solution.

It would be sad if this issue was allowed to poison the relations between social administrators and sociologists. I therefore very much hope that it was possible to develop a mutually satisfactory arrangement, perhaps on the lines of that worked out by representatives of the BSA and the SAA in their meeting of February 6.

Yours sincerely,
BLEDDYN DAVIES,
Chairman, Research policy committee,
Social Administration Association.

from Professor Robert Pinker and Professor Philip Abrams

Sir,—Representatives of the British Sociological Association and the Social Administration Association met on February 6 to discuss their joint interest in the future of their respective academic fields within the SSRC. This is the first occasion on which a joint discussion of the issue has been possible.

The discussion has revealed an area of considerable agreement with regard to the possibility of establishing two panels or sub-committees, one for sociology and one for social administration, within the context of the existing Joint Sociology and Social Administration Committee. Provision should also be made for one or two overlapping memberships on each of those.

Both associations have already stated the institutional arrangements which ideally they would prefer but we are now fully agreed that a Joint Committee with two panels or sub-committees on the lines set out above would constitute a very satisfactory compromise and would help to further the development of research in both our disciplines.

We greatly welcome the fact that the SSRC consulted the two professional associations on this issue.

Yours sincerely,
ROBERT PINKER,
Chairman, Social Administration Association;
PHILIP ABRAMS,
President, British Sociological Association.

Letters from Professor Donald MacRae and others, page 22

Love your job

from Dr R. J. Haack

Sir,—Ian Robinson (*THES* February 6) seems to accept the [illegible] that academics should [illegible] job and their universities should be willing to work in them [illegible] way. More generally, [illegible] people are supposed to [illegible] work to the extent of [illegible] financial rewards.

I am not sure how [illegible] demics "love" their job [illegible] institution. (Some who [illegible] work seriously probably [illegible] mental strain as [illegible] who have vastly more [illegible] they can cope with. [illegible] some disillusionment.)

Neither am I sure how [illegible] those in the non-professional [illegible] love or even hate their [illegible] institutions in which [illegible] employed.

What I don't see is [illegible] fessionals who are alleged [illegible] their work—and those who [illegible] probably quite good at [illegible] are expected to be [illegible] financially secure or [illegible] see why a doctor or an [illegible] supposed to be more "[illegible]" to those entrusted to him [illegible] builder is to his clients.

It is a pity if a person [illegible] his job because he is [illegible] as happy as he would be [illegible] loved. Perhaps he should [illegible] think about what else he could possibly with further training [illegible] it is unwarranted to suggest [illegible] someone should be [illegible] financially for liking what he [illegible]

Academic life, if taken [illegible] is not all that rosy compared [illegible] many other occupations. If [illegible] a person who is dedicated [illegible] to whom he is entrusted [illegible] paid more than those who [illegible]

The contention that a [illegible] is dedicated to his clients and [illegible] should be paid less than the [illegible] builder who is not, is one we [illegible] reject.

Dedication and talent [illegible] anything, be rewarded [illegible] ized, unless of course, we [illegible] encourage people [illegible] cated and "love" their [illegible] hear someone retort: "[illegible] *really dedicated* person will [illegible] job in spite of [illegible] anything?

A person who is dedicated [illegible] work and others probably [illegible] it and them first, and [illegible] rewards second, but I [illegible] dedicated knowing he [illegible] exploited for his dedication [illegible] of a musician.

Would we blame a lecturer [illegible] surprised if he lost his [illegible] because he was paid to [illegible] could not find the money [illegible] books he required for his [illegible] and teaching?

Further, if academics [illegible] consider they are being [illegible] much they can give back [illegible] The Chancellor of the [illegible] will, I suspect, be glad to [illegible]

Yours faithfully,
R. J. HAACK,
Department of philosophy,
Warwick University.

Staff mobility

from Dr J. L. Wood

Sir,—The plea by Mr [illegible] way to be found to [illegible] mobility of university [illegible] the fullest support (*THES* [illegible] 30).

It is not uncommon [illegible] or departments to have [illegible] staff for a number of [illegible] no prospect of the [illegible] ing for years to come.

Both individuals and [illegible] stimulated by a moderate [illegible] of change, with direct [illegible] both teaching and research.

There are certainly a [illegible] university staff with the [illegible] to enter into a suitable [illegible] scheme, for the advantage [illegible] broader academic experience [illegible] widely recognised.

Can we now move forward [illegible] setting up of a scheme of [illegible]

Yours sincerely,
J. L. WOOD,
Department of chemistry,
Imperial College,
London.

more letters page 22

Safeguarding PhDs

from Professor Sidney Pollard

Sir,—The recent critics, mainly from Oxbridge (*THES*, February 6), of the normal British system of examining PhD's are right to draw attention to some of the difficulties arising from having an internal and an external examiner, and in particular the over-assessment caused for the external by seeming to condemn, in case of failure, the supervisor as well as the candidate.

Yet, as has been pointed out, it does not follow that the internal would wish the thesis to be passed in every case, nor that there is an undue number of passes. Beyond this, however, where the real fallacy and insult lie, is in assuming that the internal, when losing the thesis *go forward as worthy* of a degree, applies different criteria from those applied by external examiners. He does not.

He is, it is true, likely to be more personally involved, which may make him judge more harshly, or more favourably, than a neutral outsider—in my experience, in about equal proportions; but he has the inestimable advantage over the external of knowing how much the candidate has been helped by his supervisor. He may also know much better what difficulties the candidate had to overcome, or how far luck favoured him.

The real insularity of the Oxbridge cyclicism lies in forgetting that any external examiner system is in itself unusual. Germany and the USA, to quote but two countries with universities which are by common consent among the most distinguished and most successful in the world, together with dozens of other countries modelling their systems upon those two, conduct all their examinations, from the bachelor degree, or its equivalent, right up to PhD, entirely by internal examiners, consisting largely or wholly of the teachers/supervisors concerned. Are they therefore all corrupt or incompetent?

Indeed even their university entrance examinations, the abitur and the high school grades, are entirely examined within the schools that did the teaching. There may be favouritism, or variable standards as a result, it is true; but there is also real knowledge of what went into the teaching, which our external examination tests to a large but unknowable extent the school rather than the candidate.

Perhaps the very poor correlation between O level, A level and university results in examinations dominated by the external system should make us more humble about its merits; and perhaps we might also remember the old adage that it is the don of an untrained mind that it considers all as inferior which it does not know at first hand.

Yours faithfully,
SIDNEY POLLARD,
Professor of Economic and Social History,
Sheffield University.

from Professor L. W. Barr

Sir,—I should like to record my unqualified support for Professor Freshwater's proposal (*THES*, February 6) that candidates for higher degrees should submit their theses in loose-leaf form. This procedure was adopted in this college some three years ago and has been completely successful and favourably commented on by examiners.

The system adopted, of perforated sheets and a plastic spine, is simple and has the additional merit of enabling a thesis to be opened flat without doing serious injury to the binding. After the examination copies lodged in libraries can be bound appropriately according to regulations.

What puzzles me is how to have such a simple, inexpensive and obvious innovation accepted. I have made proposals on these lines to some three universities in the past two years, as part of the examiner's report, without even an acknowledgement from the PhD committees to which I reported.

Yours sincerely,
L. W. BARR,
Department of physics,
Paisley College of Technology.

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BOOKS

Changing dynasties

The Long Year, AD 69
by Kenneth Wellesley
Elek, £6.95
ISBN 0 236 40001 0

The Long Year is one of those very few years in the early Empire for which there is sufficient literary evidence for a detailed reconstruction to be attempted. This is due, of course, primarily to the fortunate survival of the early books of Tacitus's *Histories*. AD 69 is also a most important year. To have no fewer than four emperors within twelve months is remarkable enough: two major battles, the sack of Cremona and the burning of the Capitol are happenings sufficient for any year; but the real importance of AD 69 is that it marks the passing of the old order and the beginning of the new dynasty of the Flavians. More than that, it demonstrates the importance of the legionary armies and exposes the comparative weakness of the praetorian guard. The secret of Empire at last was revealed, that the emperor could be created elsewhere than at Rome. The Long Year, then, is an outstanding subject for a monograph.

There is, however, an almost insuperable drawback. As Wellesley himself acknowledges in his preface: it might seem an enterprise of folly and conceit to tread in the footsteps of Tacitus, whose narrative of this time often withstands the sharpest criticism." As the translator of the *Histories* for the Penguin series, Wellesley has good reason to appreciate the peculiar difficulties. The Taciteon style, as he admits, is easier to parody than imitate. Wellesley attempts neither, and wisely. Apart from the very beginning and the end, where the language might fairly be criticized as too high-flown, he sensibly writes in a manner much more suited to the twentieth century, in a readable, calm and yet exciting narrative.

The excitement, of course, derives from the situation which would do justice to any Hollywood epic, and Wellesley very largely lets the action speak for itself. He does not attempt, for instance, to deprive Otho of credit for his suicide after the battle of Bedriacum (or the first battle of Cremona, as Wellesley, rightly, prefers it to be called).

One or two small points might puzzle the general reader. Wellesley is inconsistent in his treatment of the names of military units: sometimes he employs the usual title, for example XXI Rapax on page 102, more often he translates, for example, Twenty-First (Hurricane) Legion on page 80. The Latin name is surely preferable.

Similarly, most place-names are given in their modern form, even when these are less well known, except possibly inside Italy. A concordance of place-name equivalents is provided, but, oddly, in their Latin order. Maps are a problem: that of Northern Italy is on too small a scale, whereas the other three, which illustrate the fighting near Cremona, could well cover more than one page. The illustrations are interesting, but for the most part bear little relation to the text. There is a satisfactory index, and the notes are consecutively numbered throughout the book, which is convenient for the reader. There is no bibliography, but a satisfactory one would have been too long, and an unsatisfactory one useless. A more serious point is in relation to the size and nature of Stanwick. Wellesley refers to the attempt by Venutius "to dislodge Cartimandua from her throne and from her capital at Stanwick near Boroughbridge". Stanwick is north-west of Scotch Corner, and usually associated with Venutius.

G. R. Watson

Imperial outlook

Alien Wisdom: The Limits of Hellenization
by Arnaldo Momigliano
Cambridge University Press, £4.50
ISBN 0 521 20876 9

Arnaldo Momigliano was born in 1908 and began his distinguished career of scholarly publication in 1930 with a work on the composition of Thucydides's history, which was followed the next year by one on the Maccabees. Diverse interests and enormous erudition have continued to be a mark of his large output. He has ranged up and down the centuries of the ancient world, classical and near eastern, deploying a by now legendary mastery of bibliographical techniques and a shrewdness of judgment which together have earned him universal respect as one of the most eminent of ancient historians.

The present book, which comes as he retires, is derived from his Trevelyan lectures at Cambridge and his Flexner lectures at Bryn Mawr. It considers how in the fourth to first century BC (the Hellenistic age) Greeks explored the world of the Celts, the Jews, the Persians (Iranians) and of the Romans themselves. Hellenistic civilization was well equipped for knowing other civilizations—except for the fact that command of languages was lacking. This was always a weakness of the Greeks; if they had known at least one other tongue it is likely that they would have avoided some of the philosophical perplexities which beset them.

The practical Romans learned Greek, and were not slow to take advantage of Greek technical cooperation to develop their knowledge of barbarian lands and eventually to conquer the Greeks themselves. And they were able to persuade natives of Magna Graecia, Campania, Umbria and Africa to use their knowledge of Greek so as to produce a literature in Latin. How far the success of Roman imperialism is attributable to the Romans' determined effort to learn to speak and think in Greek Professor Momigliano is hesitant to conjecture, but clearly it was a very important factor.

Before the death of Alexander (323 BC) the Greeks were hardly familiar with the Roman, Celtic and Jewish civilizations, though their contact with the Persians, if not always comfortable, was of long standing. Momigliano finds, contrary to his original expectation, that Roman impact on the intellectual relations between Greeks and Jews or Celts or Iranians as soon as Rome's power began to be felt outside Italy in the second century BC was strong. Under the influence of their Roman masters the Greeks' interest in other peoples grew.

In the second century BC Polybius, the Greek historian of Rome, was enabled to write as he did by the discovery there of an aristocracy already deeply imbued with Greek ideas and ideals with whom he thus shared a whole set of assumptions about life. He readily identified himself with Roman success, overlooking awkward matters (for example, internal conflicts within the Roman upper class, and tensions between Romans and non-Romans in Italy), and he created an atmosphere "in which Roman conquests became both easy to understand and difficult to question".

Horace's adage, "Greece, the captive, made her savage victor captive" (*Epistles* 2.1.156) needs some reconsideration in the light of this interesting and stimulating book.

H. MacL. Currie

Athletes

The Olympic Games: The First Thousand Years
by M. I. Finley and H. W. Pleket
Chatto & Windus, £5.00
ISBN 0 7011 2087 8

With the start of the Olympic Games of 1976 we are inevitably reminded that this bizarre occasion with its mixture of competitiveness, sturdiency, and idealism, claims roots and origins in Ancient Greece; and it is appropriate that the reminder should be documented by writers with the unimpeachable scholarly credentials of Professor Finley and Dr Pleket.

The authors approach their task informatively and without sentimentality, and should attract readers who know much or little about the ancient world, whether they be athletic enthusiasts or whether they loathe organized games and find sport a bore. They give a clear account of the extraordinary welter of swerving horses and carts which constituted a chariot-race; and they make us realize that the Olympics, however splendid, were uncommunicable for participants and spectators alike. The book is well illustrated too—the terrifying boxers' thongs, the (admittedly irregular) attempts of pancratiasts to gouge out their opponents' eyes, the menacing figure of the trainer, whip in hand, and, with unexpected directness, the pederastic propensities of the participants (or some of them)—all are portrayed in well-chosen photographs of vase paintings.

The book's great merit is that it not only describes the games well but sets them in their social, political and religious context. We learn how the relation of the games to military needs—illustrated by the number of Spartan victories in the early games—became less and less close, as the skills of the athlete were pursued for their own sake and as the political value of competing was seen to lie in the display of wealth. Also, although the games in many ways reflected the aristocratic values of ancient society, the athlete was one of the few whose skills enabled him to cross the formidable class-barriers of the ancient world. The authors do well to explode some of the mythology that has arisen since the modern world tried to revive the traditions of the ancient. An Olympic flame was not kept permanently kindled: "the torch-races of antiquity were purely local relay races".

I have only one complaint: there are no references, and no bibliography. Furthermore—and this is inexcusable—authors who could be named are not. It is useless and infuriating to read a quotation from "a good, near-contemporary Christian", and not to find out who he is. This book deserves the attention of scholar and layman alike; but at a time when there is growing interest in the ancient world it is patronizing for the reader to be denied information which could encourage him to pursue his interest.

J. L. Creed

Fourth century ivory diptych of Adam in the Garden of Eden.

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JOHN MURRAY

Intellectual revolution

Plato's Universe
by Gregory Vlastos
Clarendon Press: Oxford University Press, £3.75
ISBN 0 19 824538 6

In *Plato's Universe* Professor Vlastos asks whether Plato's approach to science was wholly retrograde, especially when considered in historical context. In the first chapter he argues that the early philosopher-scientists (*physiologoi*) introduced an intellectual revolution by ceasing to think of the universe as partially governed by arbitrary divine forces, and considering it instead as an ordered system, obeying laws of its own. The ordered beauty (*kosmos*) of the world is not imposed on it, nor can it be violated by any gods, but is only the manifestation of its laws, so that the word *kosmos* is applied indifferently to the natural world itself and the order in it. While their views varied in content and degree of liberation the clear picture is of opposition to divine causation in favour of materialistic accounts of the origin and operation of the universe.

In chapter two he considers how Plato appears to reject this whole tradition, even being prepared to punish all *physiologoi* for their atheism (*Laws* 885 seq), and insisting on this importance of recognizing God's primacy in the universe. Plato derives certain "facts" from the belief in a benevolent deity in love with beauty. This Vlastos concedes, is retrograde. But he argues that these metaphysical views eventually make contact with the data of astronomy because they entail that stellar motions are circular. This conflicts with known observations of the sun and planets. So far as the sun goes, Plato was stimulated into a way of preserving the thesis about circular motion while explaining the appearances, which was scientifically extremely fruitful and preferable to anything that his opponents could produce.

In the final chapter Vlastos offers an exposition of Plato's atomism, arguing that it does not conflict with any "hard facts". He admits that it is not particularly fruitful, but argues that it is no worse here than its best rival, the Democritean view, while aesthetically preferable. Further, the view, while preserving the deity, rationalizes him. Thus during centuries when materialistic atomism had little hope of making headway, the *Timaeus* held out the possibility of combining scientific rationality with religious belief, so keeping the Greek intellectual torch alight ready for the discoveries of the seventeenth century.

To so short a book, where so much is speculative, Vlastos is bound to deal rather quickly with some opponents, although a series of long notes in the appendix helps. He gives a clear presentation, with much of detailed value. He seems to me a little harsh on the reputability of Socrates, of Plato's general teleology, perhaps because he sees the connexion of rationality with goodness as explicable only as a piece of metaphysical perversity. He is also rather brisk on Plato's relations with the *physiologoi*. Those described in *Laws* 885-892 seem to hold: that important objects result from nature and chance, that natural objects are material and unthinking, that soul is parasitic on matter, that justice and the gods themselves are products of human ingenuity. It is unlikely that the *physiologoi* generally are envisaged. The description fits very few, and according to *Philebus* 28c, 30d, Plato thought most earlier thinkers considered mind to rule the universe. *Phaedo* 96 seq does not contradict this: it is one thing to think that mind rules the universe but not use the fact in one's explanations, another to consider the universe as basically a mindless amalgam partly the product of chance. It needs arguing that the *physiologoi* fit the second description and that Plato thought they did. Without these points Vlastos's picture will look like giving too clear and clean a contrast. Perhaps we can look forward to more from the same pen.

Justin Gosling

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DENT

BOOKS

The Lycurgus Cup, a cameo glass vessel of the fourth century. This and the illustration on the facing page both appear in The Fall of the Roman Empire: A Reappraisal by Michael Grant; Nelson, £6.95.

Interpreting Rome

A History of Rome down to the Reign of Constantine
by M. Cary and H. H. Scullard
Macmillan, £7.95
SBN 333 17440 2

Although Rostovtzeff's epoch-making *Social and Economic History of the Roman Empire* had appeared in 1926, the *Cambridge Ancient History* (to which he was a contributor) was still incomplete when Cary's *History of Rome* first came out, in 1935. The past forty years have seen an increase in information and advances in interpretation over the whole span of Roman history. Gjerstad's excavations have revived interest in the origins of Rome, the regal period and the early Republic, and a lively debate is still in progress. Knowledge of the Etruscans and their impact on Rome has increased with the discovery of the Pyrgi inscriptions marking a major step forward; while study of Phoenician and Greek involvement in Italy now seems to be on a much firmer footing. For the Republic, there is now much more information for the serious student: the work of Gelzer and Münzer has been thoroughly assimilated. Of the major contributions one might single out those of E. Badian and the two great monographs by Toynbee and P. A. Brunt, while Syme's *Roman Revolution* has transformed our understanding of the age of Caesar and Augustus. On the imperial period there is also a great deal more: Syme's *Tacitus*; the series on the provinces (which has so far covered Britain, Dalmatia and three of the Danubian provinces); the flood of work on the Hadrianic *Historia Augusta*; and A. M. Jones's monumental *Later Roman Empire*. Revision was clearly required, and Professor Scullard is eminently well qualified to undertake it, both as a former pupil of Cary and as an author in his own right.

The book has a completely new format, with a larger page and double columns. Even so, it is still 200 of the original edition), for there is a good deal of new material, including twice as many photographs and many more maps and plans. The illustrations are well chosen and, on the whole well reproduced; some would are very up to date, such as the Pyrgi inscriptions or photographs of Ostia and Vindolanda and the reconstruction of the Fishbourne palace. A chronological table and two republican stemmata to supplement the genealogy of the Julio-Claudian dynasty have been added, and also—doubtless symptomatic of the declining state of classical studies—a glossary of Latin terms, from *acclamatio* to *virilitim*. But the most substantial addition is to the notes, now gathered together at the end of the book instead of after each chapter, and occupying over 80 pages in small print.

Almost nothing has escaped Scullard's attention, including some extremely recent items, and he is liberal with references to articles as well as to books, some in languages other than English in each case. There is, however, no reference to the work of H.G. Pflaum on the imperial procurators (and his essay on the *cursus publicus* should also have been cited, in preference to Rieple's *Nachrichtenwesen des Altertums*). Use of Pflaum would have greatly improved the rather defective account of equestrian officials in chapter 37. Curiously, there is nowhere any discussion of senatorial careers under the empire.

In general, there is more to criticize in the later part of the book where the editor is less at home. Errors were more frequent here in the original version, and although many have been eliminated, some oddities still remain. The section on Agricola in Britain has been amended, but the governorship is now allowed only six years. Hadrian's heir is still called Commodus *Verus* and Severus's younger son *Antoninus* Geta (two of the *Historia Augusta*'s favourite mistakes). The post of *praefectus urbi* at Rome is still attributed to Hadrian and the bureau of the *res privata* to Severus, in spite of the new inscriptions showing these items in existence earlier.

Misprints are commendably infrequent in so long and detailed a book; there are a fair number of minor errors in initials or slight deformations of authors' names in the notes (only Murillo for Musurillo, Schleimache for Schleiermacher, Bregg for Bregg, could momentarily mislead). Above, all for its extensive annotation, it will be an ideal work of reference for students, and I hope that the publishers will make a cheaper edition available in paperback.

A. R. Birley

Heroism

The Emperor Julian
by Robert Browning
Weidenfeld & Nicolson, £6.95
ISBN 0 297 77029 2

Robert Browning is one of our most justly honoured ancient historians, a scholar who cares about teaching, a classicist who does not think that the world came to an end in AD180 or any such date, but is aware of the continuity of history. Five years ago he wrote an excellent book, *Justinian and Theodora*. Now he has moved back a century and a half to treat *The Emperor Julian*.

He has a fascinating and fruitful subject. Gibbon wrote of Julian's "intrepid courage, lively wit, and intense application", and yet saw him as one in whom "Alexander was transformed into Diogenes: the philosopher was degraded into a priest". He was the centre of a sensitive and imaginative novel by Gore Vidal. Julian was born in 332; his mother died when he was a baby. He was but five when Constantius had his father and brother butchered, perhaps before his eyes. He grew up a recluse, in protective custody, surrounded by spies. He was aged 19 when his brother Gallus was made Caesar and he himself started the intensive study of philosophy, aged 22 when Gallus was executed.

The following year he became Caesar himself. At age 25 he was commanding troops with astonishing sureness of touch, and was not aged 30 when he became sole emperor, and began his attempt to restore paganism in the face of established Christianity. But pertinacity became petulance, and Julian's anti-Christian writings are curiously ineffective. At the same time he set out against Persia. Here again his touch left him and he showed no sense of strategy. He was without his breastplate—surely a sign of some sort of death-wish when he received his fatal wound. He was Alexander's age, but no Alexander; his philosophy was ineffectual; his legislation was speedily reversed.

Browning tells his story well. Sometimes speculation is mingled unobtrusively with certainties, and conclusions drawn which others would not accept. Did the Church really own ecclesiastical buildings and estates of all kinds before Constantine? Did Constantine declare Sunday a public holiday because it was a Christian day, or the *dies venerabilis Solis* or both? Was Christianity really so novel in the middle of the fourth century? Is it meaningful to say the Fortune of the city was hardly a true deity? Is it true that the cult of Mithras was widely diffused among the soldiers: the chapels are concentrated and mostly small. In Julian's "epitaph" does not the phrase mean "beyond the Tigris"? Besides these there is a strange neglect of the evidence of Basil. He is not even mentioned in the list of sources; nor is Themistius, nor, most oddly, is A. D. Nock's edition of "Sallustius". And what of numismatic evidence—the Apis coin SECVRITAS REPUBLICAE? For the most part, however, Browning's judgment is splendid.

Note for example how he draws out the allusions to the Unconquered Sun in Eusebius's panegyric on Constantine. Constantine's was a sort of power, syncretistic of the Sun and the Christ. Or note his excellent account of Julian's treatise on the Mother of the Gods. Indeed when Browning reaches Julian's reign he seems to warm to his work, and his chapter, "Julian and the Christians" could hardly be bettered. He emphasizes the recent growth of Christianity among the upper classes; he is outstandingly sensitive on Julian's psychology; he gives a brilliantly economical and balanced account of the importance of education; he has a judicious analysis of the limitations of Julian's anti-Christian polemic.

"He was a man" said Ammianus of Julian, "worthy to be accounted among the heroic spirits and marked alike by the distinction of his achievements and his natural dignity." Warts and all, Browning has conveyed the heroism of this very human person—*perfidus ille deo, quamuis non perfidus orbi*.

John Ferguson

Inside a civilization

The Roman Experience
by L. P. Wilkinson
Elek £6.60 and £3.25
ISBN 0 236 40008 8 and 40009 6

This highly competent book, carrying the authority of a distinguished critic and elegant translator of the Roman Augustan poets, is directed towards that growing public which, deprived by fate or fashion of the opportunity to read Greek and Roman literature in the original, is happy to draw sustenance of a sort from translation. Used in conjunction with the *Oxford Classical Dictionary* and Lewis and Reinhold's sourcebook *Roman Civilization* it will do much to bring the Romans nearer to us. A social history seeking to "view the Romans' experience more from within than has been customary", it deals with the central period from 185 BC to AD 180.

Any attempt to define the character of a civilization is hazardous. The particulars upon which generalizations are built tend to be too many or too few. If the voice of the silent majority of modern Britons is scarcely audible to us contemporaries, that of Rome is not likely to be more perceptible after two thousand years. Horace and Virgil and Ovid and the rest we can talk with as friends, but how typical are they of their countrymen? Perhaps Wilkinson might have been more explicit in warning us of the source situation: the enormous and often fortuitous losses, the frequently unsatisfactory or late "authorities", and the Roman passion for satire and self-criticism. But he very nearly brings off the impossible, regaling us, almost to satiety, with a multitude of striking anecdotes used to support this or that view.

The compression enforced by the comparative brevity of a book treating a large theme causes some lack of sustained argument (the longest such is a six-page study of the elder Scipio, whose career lies largely outside the period) and, in tempering the wind to the shorn lamb, the author too rigorously eschews references to the primary source: (only two or three have survived the sponge).

It is ungenerous to complain of omissions where so much is felicitously and entertainingly offered. I would willingly jettison the pages on the antique Appius Claudius, the extraneous Scipio and that peculiar crank the elder Cato in exchange for three significant characters who do fall within the scope of the book and about whom we are reasonably informed: Aemilius Paullus, Scipio Aemilianus and Tiberius Gracchus. I should like to hear more of the Romans' sheer efficiency (the author admits their talent for "compromise", but more than that was needed to unify Italy and the world, and to adapt and expand the instruments of civilization for a millennium); of the attitude to nature; of local patriotism; of literacy and literary patronage; of the passion to maintain calendars and records; and of conditions of life outside the capital, and outside Italy. For these things evidence is not lacking.

The book is well produced, but the index is decidedly incomplete. In such a vast accumulation of detail, a few slips are inevitable and venial: Cape Colonna is not in the toe of Italy, nor Horace's birthplace in its heel; Egypt was not the chief source of Rome's grain imports; and Cologne is not a happy example of a town developing from a legionary fortress. But these are details. What matters is the essential readability and plausibility of an account which, especially in its latter half, in large measure fulfils its aim.

Kenneth Wellesley

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Harvard University Press
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BOOKS

Boxes, tubes and arrows

Human Memory
by Roberta L. Klatzky
W. H. Freeman, £7.20 and £3.90
ISBN 0 7167 0729 2 and 0728 4

As a text written for undergraduate and graduate courses in memory, learning and cognition, *Human Memory* leaves much to be desired. If the most important criterion for a student text is simplicity without loss of refinement of argument, then the book fails. At different points the descriptions are oversimplified or obtuse, in the representation of Broadbent's model of attention, for example, we are shown a cut-away view of a human head with a few pieces of tubing running between the ears and the mouth. The representation of cognitive systems by three-dimensional boxes may be a useful teaching aid when used occasionally, but such extensive use as in the early part of this book must be accepted warily. These amusing simplifications of models and processes, in terms of boxes, tubes and arrows, might easily lead students to naive interpretations of the originals.

The approach is from the contemporary view of man as a processor of information. It is a powerful and provocative view, but this instance of its application is disappointing. Klatzky places a considerable emphasis upon structuralism in the study of human memory, and at times there are lapses into the cold-desc jargon of verbal learning theory. The tendency to search for structure in the organization of our memory systems is perhaps representative of the state of thinking about the subject, but one might speculate that this is also why we are not progressing as we might hope.

The emphases of content are also topical. There are thorough discussions of encoding processes, the codes we use to represent our knowledge, and of the organization of semantic memory. The relationships between memory and other components of the cognitive system—pattern recognition, and problem solving, for instance—are not described in any great detail, but Klatzky does indicate the context of where "memory" fits in this system. Whereas the organization of the text is not totally incomprehensible (we start with the entry of information into the system and conclude with some of the effects of information upon behaviour), it is disjointed.

The choice of material used by Klatzky is representative of what is happening in memory research, except for relatively little coverage of the use of memory in language, of the processes of search through semantic memory, and there is no mention whatsoever of the directed forgetting phenomenon. There are some valuable points here which Klatzky neglects; surprisingly so in view of her concern with mnemonic organization.

Geoffrey Underwood

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The Emergence of Greece
ALAN JOHNSTON

The Greek World
ROGER LING

Defending the university

Universities in the Western World
edited by Paul Seabury
Collier Macmillan, £7.25
ISBN 02 928 340 X

Making every possible recalcitrant and counter-suggestible allowance against the sensationalism of the mass media, it remains sensible to think of the university as an institution in crisis. The problem is less to acknowledge the symptoms of infirmity than to discover cause and prescribe cure. Diagnostications of the campus disruptions of the late 1960s are legion and, as Al Bourricaud observes, for the most part undistinguished. This particular volume, however, is among the minority of useful publications and is illuminating particularly in that the new economic stringencies of the 1970s which have added further dimensions to the conflict reflected by the "student troubles" of the late 1960s, were already in the minds of the contributors, most of whom wrote their essays for a conference of the International Council on the Future of the University in 1973. Professor Seabury has edited this collection of papers and Charles Frankel has added a thoughtful epilogue which summarizes, albeit too briefly, the main doubts and dilemmas now faced by those who would ensure a future for academic science and scholarship as we have known it traditionally in the western world.

In one sense all contributors agree; they want universities to flourish as protected centres of free learning and teaching. But this ultimate consensus of aim is obscured by divisions as to more proximate policies which derive in turn from opposed analyses as to the causes of present discontents. Some deduce disarray in the university from class and race conflict in national and international society. Others seek to explain the crisis in terms of the structure of the university itself, pointing to vested resistances to decline of privilege or overenthusiastic acceptance of social responsibility, whether in the form of demand for student places or for useful knowledge. These externalist and internalist theories are advanced politically from both the left and right. I cannot follow M. Bourricaud in preferring either approach; they surely meet on their respectively deductive and inductive courses and therefore become indistinguishable. What remains is the fact of what Professor Shils calls the "disposition of the academic ethos" and hence the threat to its embodiment in action which is the university.

Of course the academic ethos—a steadfast devotion to science and letters by teachers and their students—waxes or wanes with social conditions. It has been driven to the margins of society often enough in the past by intolerant churches, secular nationalisms and, in our own time, by totalitarian regimes. It may be more subtly enfeebled by affluence leading to indolence or, still more subtly and contrarily, by resources inadequate to ambitious commitments.

The opinions offered in this book range from deep gloom to the most cautious optimism. The news presented from Germany by Thomas Nipperdey is of sombre fear that academic standards have been undermined by political radicalism. From the United States S. M. Lipset pursues the absorbing theme that unionisation of university teachers may shift power back towards senior members but at the same time constitute an attack on traditional meritocratic standards. Lipset traces the multiple repercussions of the trend "from activism to austerity" over the past 10 years and ends in disquiet: "The portents, however, are not good". Donald MacRae is relatively cheerful about British adaptation to the unrests of the recent past but is less confident about "our ability to weather the gales of the economic climate and the well-meant activity of the state in its various forms".

Whatever the present causes and conditions I am inclined to agree, as in effect does Prankel, with Ralf Dahrendorf who tells us that there is "no way back to the old unconditionality which existed before mass education, participatory demands and the emergence of an educated class". The past can teach us but must not be allowed to enslave us any more than should any current and fashionable political creed. Frankel puts it well when he says "there is a need for thought, specific and substantive, about the shape that our education should take in a world that is going to be radically different from that in which universities in the old model emerged. But there is a need, even more, to demonstrate that, whatever the forces of 'History', whatever the pressures to political factionalism, there are men and women in universities who do not make up their minds about what is true by asking which faction will be served."

A. H. Halsey

The English teacher's complaint

The Preachers of Culture
by Margaret Mathieson
Allen & Unwin, £4.95 and £2.40
ISBN 0 04 370067 5 and 370068 3

The Preachers of Culture offers a sweeping survey of the aims proclaimed by educational pioneers and committees over the past 150 years and of the way they have affected the teaching of English in schools. In the process complex ideas are reduced to slogans, but the book is not intended as a history of educational ideas. Its concern with ideas is only with their consequences for the curriculum.

Margaret Mathieson contends that since the mid-nineteenth century in addition to the rudimentary arts of literacy, the English teacher has been made responsible for transmitting an increasing list of controversial graces. Arranged in chronological order these are: diffusion and revival of culture; stimulation of creativity; training of discrimination; and the nourishment of social (rather than clerical) linguistic competence. In its strongest form this final aim would abolish the teaching of rudimentary literacy to working-class children, with which the whole process began.

As each new aim was accepted, according to the author, it did not replace its predecessor but was set down beside it in the classroom, regardless of the fact that there are contradictions among the four functions.

For example, the first three aim to "alienate" the pupil from industrial civilization, while the fourth seeks to fit him for it. Similarly, while the first and the third aims urge the teacher to act as an outraged missionary, the second and fourth require him to perform as an unshockable confidant. And so, she says, English teachers have laboured under demands which have always been unrealistic and have now become absurd. The result is that they suffer from role conflict, doubt, distress and disappointment, to say nothing of public disapproval. Nobody acquainted with the field of English teaching would deny that there is some confusion among teachers, but the same could be said with no less justice of other subjects, such as mathematics. The author too easily assumes that English is a special case and she pays too much attention to educational theory. Admittedly, English teachers are given to repeating pompous claims, such as those in records, but in this they only resemble most other people engaged in education. This is no better than a caricature of what they really think they are doing than the secret life of Walter Mitty was a description of his public one.

The danger of this theoretical concentration is that the way to improve aims which are, the author alleges, "diffuse and lofty" is to narrow and lower them, which is a stultify rather than stimulate the development of the English curriculum. There is no reason why there should be only one way, however, over our views on the importance of educational theory, however, it is still possible to be grateful for the motley record of ideals.

Sydney Bolt

How workers see society

Working-class Images of Society
edited by Martin Bulmer
Routledge & Kegan Paul, £4.90
ISBN 0 7100 8308 4

Sociologists in Britain are sometimes accused of being preoccupied with social class and stratification, yet such a preoccupation is probably inevitable when many inequalities are apparent in society. However it embodies an interesting paradox, for it tends to be the *sociologists* who perceive the injustices rather than those who they believe are suffering them. These sociologists need to understand why working-class groups in British society have failed, in Marxist terms, to develop a radical class consciousness and this is where the study of working-class images of society becomes important. This book provides some of the answers.

There are 16 contributions to the volume, each of which discusses manual workers' images of society. The emphasis is upon "traditional" workers as exemplified by those employed in such industries as coal-mining, shipbuilding, engineering and agriculture. The starting point for all the discussion is David Lockwood's seminal paper, "Sources of Variation in Working-Class Images of Society", first published in the *Sociological Review* in 1966, in which he argues that conceptions of inequality are predominantly shaped by immediate work and community experiences. Thus, by implication, there are only limited possibilities for the emergence of a broadly-based class consciousness.

Although a number of the contributors do question the overwhelming importance which Lockwood attributes to "local" factors in shaping class imagery only one or two of them systematically consider the significance of factors outside immediate work and community situations for the determination of workers' attitudes. Indeed the almost exclusive emphasis upon "local" factors is the weakness of the discussions included in this volume. It is, in other words, difficult to accept that the activities of the mass media, powerful interest groups and the political system have no consequences, to say nothing of the effects of changing national and international markers for employment opportunities, payment systems and manager-worker relationships in specific localities. Indeed as one or two of the contributors suggest, large-scale economic changes are breaking down the traditional parochialism and restricted social perspectives of many sectors of the working class and are thereby threatening the bases of social and economic stability in British society.

Richard Scase

BOOKS

Defining terms

Poetics, Rhetoric and Logic: Studies in the Basic Disciplines of Criticism
by Wilbur Samuel Howell
Cornell University Press, £9.10
ISBN 0 8014 0945 4

Professor Howell is best known as the author of *Logic and Rhetoric in England 1500-1700* and *Eighteenth-Century British Logic and Rhetoric*. As a literary scholar he is particularly interested in the interrelations of poetics, rhetoric and logic. Strictly speaking, he should be equally interested in grammar as a crucial part of the trivium, but he excuses himself for this omission on grounds which seem to me unpersuasive. His new book is a collection of occasional essays, unified by a pervasive concern to clarify the distinctions between poetics, rhetoric and logic where such distinctions exist, and to define the common ground between them where that ground has been ignored. The dominant note of the book is impatience. Howell is irritated with so many modern scholars that I am surprised he does not leave them alone. Nearly every essay includes a few scolding pages in which some scholar is rebuked for confounding a distinction or failing to make one. In most cases the sins are venial and arise from differences of emphasis rather than from darkness or folly.

Howell defines poetics as "the theory of symbols of all degrees and kinds", rhetoric as "the theory of statement in its entire range from oratory and history to biography and scientific exposition", and logic as "the theory of that branch of nonfictional writing or speaking *which is addressed* to the world of learning, as scholars, philosophers and scientists speak to each other and seek to advance learning by disputation, controversy, argument and exposition". These discriminations are then enforced in the several essays. In the first Howell considers Aristotle and Horace on rhetoric and poetics. In the second he examines briefly what he expounded fully in *Logic and Rhetoric in England 1500-1700*, the interrelations between poetics, rhetoric and logic in such critics as Bacon, Wilson, Sidney, Harington, Jonson and Puttenham. The third essay is a study of Fénelon's analysis of oratory and poetry in the *Dialogues* and the *Letter to the Academy*. One of the best essays considers the influence of William Duncan's *Elements of Logic* (1748) on Jefferson and the Declaration of Independence. There is also a severe and damaging account of De Quincey's distinction between the literature of knowledge and the literature of power.

The book ends with a somewhat grudging account of Kenneth Burke's "Lexicon Rhetoricae", arising mainly from Burke's remark that poetry and rhetoric are much the same thing in one respect, namely, their interest in making a desired impression upon the theoror or reader. Howell makes very heavy weather of this assertion, and ignores the many occasions on which Burke maintains in practice a real distinction between the two terms. Besides, two things may be alike in one respect and different in every other. A sentence may be a statement, but it may also be described as an action or performance. A critic who pursues the terminology of statement will say very different things about a sentence which his colleague discusses in terms of action. Howell never makes these concessions, but he has not shown what dire consequences would fall upon us if we were to make them. He has valuable things to say about mimesis, the distinction between mimetic and nonmimetic literature, fiction, feigning and other topics, but I wish he were liberal rather than rigid in his use of the intellectual life. It is a big country, after all.

Denis Donoghue

The singer and his songs

Selected Poems 1908-1959
by Ezra Pound
Faber, £3.50 and £1.30
ISBN 0 571 10906 3 and 10907 1

Pavannes and Divagations
by Ezra Pound
New Directions, $3.45
ISBN 0 8112 0575 4

Pound
by Donald Davie
Fontana, 60p
ISBN 0 00 633433 4

Until about a decade ago, Ezra Pound was the most neglected of all major American writers. Most academics interested in modernism virtually ignored him. On both sides of the Atlantic, students of twentieth-century poetry were allowed, even encouraged, to disregard the author of the *Cantos*; a similar inattention to the author of *The Waste Land* would have been unthinkable. Despite Pound's burning wish to instruct and inspire other poets, on the whole his influence on their works proved slight. And the general public, charmed by Frost (or their image of him) and awed by Eliot, felt little interest in Pound.

Such reactions are not surprising, of course. Pound's obscurity is bound to dismay even the most serious scholar, let alone the undergraduate or general reader; Eliot tends to confine his quotations and allusions to the major texts of English and continental literature, but Pound's references regularly encompass troubadour poetry, Chinese literature and history, and events in his own life. Moreover, his anti-Semitism and his naive political and economic theories, as well as his open support of Fascism during the war, hardly make him an appealing figure. The anger that so many intellectuals felt when he was awarded the Bollingen Prize indicated that, whether or not they would in theory support such a view of literature, in practice they believed that the dancer and the dance are indivisible.

In the past 10 years or so, however, interest in Pound has risen dramatically. Yet though many valuable articles and books on him have been written and many editions of his works have been published, certain significant gaps in our knowledge of and interest in Pound remain. Despite the great upsurge of enthusiasm for his works, he is still neglected in many university courses. Exegeses of Joyce's obscurities abound, but there are still no explanations in print for a number of Pound's most puzzling passages.

Because of the increasing attention that Pound is receiving, the new Faber edition of his poetry is very welcome and very useful. For years Faber has been reissuing an older volume of Pound's selected poetry; this expanded and revised version is a considerable improvement. Unlike the earlier volume, which consisted only of some of the short poems and *Hugh Selwyn Mauberley*, this book includes as well *Homage to Sextus Propertius* and generous selections from the *Cantos*. The editorial decision to omit a number of the early poems that appear in the original edition was judicious; almost all of the best and most characteristic early poems are still included. The exclusion of Eliot's essay on Pound, used as an introduction to the earlier edition, is also sensible: this work hardly represents Eliot's criticism at its best. My one reservation about the selections is that, given the beauty and literary significance of the "Pisan Cantos" it would have been useful to reprint one of them in its entirety.

Though this edition is certainly valuable in its own terms, it indirectly reminds us of the urgent need for an annotated edition of Pound. We may sometimes forget that some of the best short poems, such as "Piere Vidal Old" and "The Return", are readily accessible without any critical apparatus. On the other hand, though, only with the aid of extensive notes are we able to read and to teach a number of his most impressive works.

Pavannes and Divagations is a collection of some of Pound's prose essays and a few poetic *jeux d'esprits*; many of these selections had previously been very hard to find. Though on the whole they do not rank among Pound's most central works, they are illuminating. For example, the autobiographical sketch is interesting, especially because of the complex attitudes towards the United States that it reflects. As Donald Davie has demonstrated in his studies of Pound, the "Imaginary Letters" are helpful in interpreting *Hugh Selwyn Mauberley*. One of the most important items in the book is a little essay that critics tend to neglect, "Religio"; using the form of a mock catechism, Pound spells out attitudes to "the gods" that clarify many of his short poems, as well as several significant passages in the *Cantos*.

Like a number of the other authors in the Fontana Modern Masters series, Donald Davie has chosen to write a serious and controversial analysis of the figure whom he is examining, not a bland introduction. Thus, for example, he presents interesting and original arguments about the influence of Allen Upward on Pound while barely touching on the more important but more well known influence of, say, Major Douglas. Many of the strengths of this valuable book, as well as some of its weaknesses, stem from such decisions. On the one hand, Davie offers a number of illuminating interpretations which make the book useful for scholars seriously involved with Pound, as well as for students just beginning to read him. On the other hand, since there are still comparatively few good introductions to Pound's work, one regrets the absence of a review of the basic information about him.

Possibly one explanation for Davie's refusal to write a basic introduction is that he had already written a perceptive general study, *Ezra Pound: Poet as Sculptor*, and did not wish to rehash that work. Indeed, Davie has impressively resisted the obvious temptation to turn out a pot-boiler, a mere condensed version of his earlier book: though he does not radically revise his readings of Pound, he adduces new evidence for several of his interpretations and develops and expands some ideas that he had just hinted at before.

Davie's theories about Pound are often debatable, almost always thoughtful and thought-provoking. One of his main contentions is that, encouraged by Pound's own assertion that the artist should "make it new", critics have neglected the degree of his conservatism, the ways in which he is a typical Edwardian; though the argument is presented in an exaggerated form, it is certainly a valuable corrective to the way we usually read Pound. Davie's analysis of Pound's metrics is an excellent commentary on this highly complicated subject; his point that the verse is indebted to traditions of song is especially helpful. My own serious reservation concerns his reading of *Hugh Selwyn Mauberley*; here, as in his other studies of Pound, Davie argues unpersuasively that the gaucheness of the style represents a deliberate attempt to imitate and comment on "translatorese". The lack of an index is regrettable. On the whole, though, this is a very interesting and engagingly written study, an example of the fact that Pound is at last beginning to receive the sort of serious critical attention that he deserves and repays.

Heather Dubrow Ousby

Sartre watered down

Sartre
by Arthur C. Danto
Fontana, 75p
ISBN 0 00 634066 0

There seem to be two sorts of philosophic writing on Sartre; the first considers him to be saying something very different from ordinary (Anglo-Saxon) philosophers—a writer who pushes things to extremes. This extremism may be welcomed, as in the case of those who feel Anglo-Saxon philosophy has taken the wrong road—or it may be condemned by philosophers firmly in the British tradition, an outstanding example of which are the later books of Mary Warnock. The other way of approaching Sartre is to claim that what he is concerned with are ordinary philosophic questions—albeit sometimes expressed in extreme forms because of his literary ability. Professor Danto follows the second line of thought, discussing Sartre mainly in terms of contemporary Anglo-Saxon philosophy rather than in terms of continental phenomenology. European philosophers such as Kierkegaard, Heidegger, Nietzsche and Marcel are mentioned, but in order to illustrate Sartre's thought rather than to explain it.

Such an approach involves denying or explaining away some apparently outrageous statements and this Danto is willing to do. He does refer to one of Sartre's arguments as "a kind of logical spoof" and goes on "it is not in Sartre's nature to pass up the sort of logical obfuscations which make up the textures of a play by Tom Stoppard". This technique also leads to a reduction in the scope of some of Sartre's well-known positions; Danto is highly critical of the wide extent which Sartre gives to the notion of bad faith; considering the well-known example of the waiter who is trying to be a waiter in the way a stone is a stone, he comments that this is an example of bad faith only if the waiter has already internalized the philosophy of Jean-Paul Sartre. The non-philosophical waiter or the ordinary bourgeoisie cannot be in bad faith—they may be deceived about themselves, but they are not self-deceived. Danto is even prepared to go as far as to suggest that there may not be any real instances of bad faith at all. This interesting philosophic conclusion needs more discussion than can be given in a short book. However, the claim that bad faith and anguish are external to the main structures of consciousness which Sartre is dealing with in *Being and Nothingness* does seem to constitute a major criticism of that work.

In the same way Danto's claim that nothingness really involves only the relation of denotation or *deixis*, pointing, certainly seems to reduce what Sartre is normally thought to have meant. If "the whole high-flown apparatus of Nothingness in Sartre's thought is merely a device for speaking of the distance between sign and object" then most readers of *Being and Nothingness* have been deceived. For Sartre means it when he says that man is nothing, an anguished being, a "useless passion". He frequently has arguments for this position, which deserve close scrutiny, and in this he is like many an analytical philosopher. But his account of the "human condition", his picture of man which emerges in the literary works, is the result of his philosophical arguments. "Nothingness" is more like original sin than a point of logic. Just as there have been those who tried to minimize the latter concept, to make it equivalent to a tendency to sin rather than to a necessary sinfulness, so Danto waters down what Sartre says. After his analysis of relations with others, that most depressing section of the book, Danto suggests that Sartre did not want to deny the plain facts of co-operative enterprises. It seems clear to me that this is just what he does want to do, at least for those, and that means most of us, who have not reached the level of authenticity, if indeed such a thing be attainable—it should not be forgotten that Sartre never managed to describe what it would be like.

Anthony Manser

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Methuen is the Academic Division imprint of Associated Book Publishers Ltd.

BOOKS

Search for Nehru

Jawaharlal Nehru : A Biography, Volume One 1889-1947
by Sarvepalli Gopal
Cape, £10.00
ISBN 0 224 01029 8

Professor Gopal's work will, when completed by a volume covering the years after independence, be the first full-scale biography of Jawaharlal Nehru. Earlier books by Michael Brecher and B. R. Nanda were published during his lifetime and were based on a narrower range of source material. Gopal, whose earliest work was on Lord Irwin's viceroyalty and who is editing Nehru's letters and papers, has had access to virtually all the material directly relevant to his subject and has combined it with a study of other collections of British and Indian papers to produce a very important biography.

The focus of scholarly attention until recently has been Gandhi, whose psychology, ideology, political objectives, and style of leadership have all been considered at length. And yet, even if Gandhi is the more exotic subject, at least for a British audience, Nehru's career raises equally interesting and significant questions to which conventional categories of analysis may not apply. He took no active part in the nationalist movement until he was 30, but he emerged in 1947 as the natural choice for prime minister. It is easy enough to chart the stages of his career, but harder to assess the factors which led to his success. The romantic image of the aristocrat to whose sense of *noblesse oblige* the Indian masses turned immediately and total affection is of limited value. Nehru could not be described as a political innovator of the stature of Gandhi, Tilak or even Patel. Gopal gives an extensive account of his involvement with the peasant movements of his home state of Uttar Pradesh, and it is clear that he did no more than try to give direction at moments of crisis whose origins were economic rather than political. Another picture of Nehru is of the bridger of conflict within the nationalist movement between left and right. Certainly he was a symbol, particularly in the 1930s, of Congress commitment to social and economic reconstruction, but always under the shadow of Gandhi's more militant form of consensus-building. In 1936, when president of the Congress for the second time, he allowed himself to be swamped by the right wing, and in 1939 his role in the Bose affair was hardly glorious. His main venture into Congress power politics—the Independence for India League—soon petered out. Nehru's special relationship with Gandhi and his ability to talk the language of the European intellectual can equally provide only part of the picture.

Gopal attempts no single answer to these and other problems, but his work provides a rounded account of most aspects of Nehru's career which, while wholly sympathetic, is informed by the historian's sense of judgment and perspective. It is in fact in the same genre of political biography to which the works of Robert Blake and Roy Jenkins also belong. This type of writing does, however, assume an informed readership and a body of easily available background material. In the case of twentieth-century India the latter conditions at least cannot be fulfilled. While we can hardly expect a complete political history, Gopal does perhaps go too far the other way, particularly when dealing with the long periods when Nehru was in prison and thus not an active participant in events. Another possible drawback of the biographical approach is that it can lead to the isolation of the subject from his environment, and Gopal is vulnerable to this criticism. Nehru's career is depicted as the story of his relationship with his father and with Gandhi on the one hand, and with the Indian masses on the other, but we are told next to nothing about his friends. Only Krishna Menon, presumably in anticipation of his later importance, is mentioned regularly, while R. M. Lohia and other radicals of the 1930s and R. A. Kidwai and Nehru's Uttar Pradesh friends are mentioned not at all or only in passing. It is only by studying the relationships of a man with his friends and supporters, however, that a total picture can be obtained. But this is not to detract from the value of this work: the technique will be all the more appropriate for Nehru's years of power.

David Taylor

A most malignant man

The Voice of the People: John Doherty 1798-1854, Trade Unionist, Radical and Factory Reformer
by R. G. Kirby and A. E. Musson
Manchester University Press, £12.00
ISBN 0 7190 0584 1

Professor Musson and Dr Kirby have drawn together the various contributions of the trade unionist John Doherty, a figure who now emerges from the footnotes of labour history. Doherty left no personal papers and the authors have ferreted out source material from many contemporary periodicals. What they present is a substantial biography of a rather abrasive character, with Musson reprimanding many other labour historians, sometimes with full justification, for their cavalier treatment of Doherty.

Doherty was an arch pragmatist, at leading figure in Manchester-based trade unionism. He acquired a reputation for militancy and even his trade union associates called him "a plotting mischievous fellow". Francis Place was more bitter: Doherty was "a rigid uncompromising intolerant Irish Catholic, altogether a wrong-headed, singularly obstinate man . . . one of the most malignant men I ever knew".

Doherty's main contribution was his National Association for the Protection of Labour, but the title was a misnomer, for the association never became national and barely touched the most highly skilled trades. It was the outcome of a temporary fusion of interests between the declining handicraft trades and the new ranks of factory workers attempting to resist wage cuts during 1829-31, a period of industrial depression. Even before the end of 1830 Doherty turned away from active trade union leadership and became more involved in journalism.

Musson argues that many historians have treated Owenism and trade unionism as common and have labelled Doherty as an Owenite, whereas his affiliations were steadfastly in favour of trade unionism as a way of gaining economic power. Producer cooperation was acceptable as a tactical ploy once the battle to combat wage cuts was joined. This accusation is not altogether justified, for many of the aims and policies followed by the early trade unionists and Owenites were in conflict. The truth is that there were times and points of fusion between cooperators and trade unionists and Doherty was not averse to courting Owenites when his trade unionism was in retreat.

What can we make of Doherty? He often expressed himself violently but his tactics were usually moderate. "His weapon was voice and pen, not torch and pike", and Musson likens Doherty to William Lovett. He was an eclectic switching activities from one campaign to another to suit the times. But those apparent inconsistencies were forced on him, and he did bring something distinctive to the causes he served, especially well-written working-class journalism. Early reaction to industrialism was bound to be uncoordinated—Doherty was not alone: Owen, O'Connor and Lovett were all *sui generis*.

R. G. Garnett

Military honour

The Rebel on the Bridge. A Life of the Decembrist Baron Andrey Rozen 1800-1884
by Glynn Barratt
Elek, £12.00
ISBN 0 236 31015 1

Baron Andrey Rozen was one of a conspiratorial group of officers who attempted to organize a *putsch* in Russia with the intention of installing a constitutional monarchy at the accession of Nicholas I in December 1825. All the conspirators were imprisoned and humiliated, most were degraded and exiled in irons, five were hanged. Drawn from upper-class imperial society, their undoubtedly honourable intentions and steadfast courage coupled with their savage treatment, earned them the status of martyrs. The legend of the "Decembrists" has ensured the publication of a mass of primary sources and a very large body of secondary literature in Russian, German and English. Professor Barratt's well-balanced account of Rozen's life is based on this published material.

Rozen came of an extremely ancient and respectable Estonian German family, with an impeccable military record; in 1814 there were seven Rozens with the rank of general. Rozen typified the Baltic Germans who, although constituting a tiny minority of the imperial population, supplied the personnel for a quarter of the senior administrative posts in the regime. The interest of Barratt's work lies in its account of the outlook and experience of one of this elite. Rozen was intellectually unremarkable. His "revolutionary" views as a young man had been inspired by nothing more than a simple desire for rationality and orderly civil institutions. He appears never to have questioned, after 1825, the legitimacy of the Tsarist regime and indeed, as Barratt makes clear, was not certain of its illegitimacy even on the day of the Decembrists' abortive coup. His views on the problem of minorities, on which Barratt dwells, were evolved in the course of a defence against Slavophile attacks on the important and loyal part played by Estonian Germans in defending and advancing the interests of the Russian Empire. Rehabilitated after the accession of Alexander II, Rozen served as an imperial official concerned with the arrangements for the emancipation of the serfs decreed in 1861. His views on society and politics remained thoroughly conservative, albeit not reactionary, throughout his life.

A man of great energy, self-control, decency and physical resilience, it is Rozen's ability to hold together a family and his own personality, and even to improve his material fortunes in the midst of the fiercest adversity which is the most impressive thing about him. His life shows just how unimportant nationality was as a moving force among the Tsar's servants in the early and mid-nineteenth century. It also illustrates how powerful were notions of honour and dedication to public service which were preserved undimmed, even amidst the beastliness of a system administered by the nasty, vindictive and narrow intellect of Nicholas I, by men who fought successfully to retain their dignity, their intellectual curiosity and sense of duty.

It is unfashionable to talk now of the Russian debt to German culture. It has of course been repaid in the twentieth century, painfully and many millions of times over; but it should not be forgotten that there once was one—and that it was very large.

Angus Walker

Monge alle the eupl condicions & signes that may be in a man the first and the greteste is . When he seeth not ne dreadth to displese & make wroth god by synne & the peple by kyuyng disordonably / When he retcheth not nor taketh hede vnto them that reproue hym and his vyces / But seeth them / In suche wyse as did the emperour nero / Whiche did to slee his mayster seneque ; for as moche as he myghte not suffre to be reproued & taught of hym , in like wise was sothyme a kyng in babilon that was named

A page from The Book of Chess printed by Caxton in 1480. An Illustration in William Caxton : The First English Editor by Richard Deacon; Hollis, £6.50.

Arab conquests

A Social and Economic History of the Near East in the Middle Ages
by P. K. Hitti
Collins, £10.00
ISBN 0 00 216744 1

That Islam, capitalism and revolution should be a major theme of a new study of the medieval Near East is not surprising. The contrast between western monetary underdevelopment in the early Middle Ages and the precocious financial institutions of Islam has long since caught historians' imaginations. For an historian who, like Professor Ashtor, of Jerusalem, lives in the area, such matters are literally of consuming daily interest. After 30 years of learned articles and two books, he is well qualified to assess "research in a field hitherto much neglected". His solid account of Near Eastern society from the Arab Conquest to the rise of the Ottomans should satisfy Islamists and educate the rest of us.

The "splendid Arab syncretism" of the conquered lands has more than a little in common with Viking Europe, but the caliphates acquired a quite unique character from Islam itself and the geographical position between the Mediterranean and India. They drained gold from a Europe a century or more behind commercially. In many ways this was the highpoint of near-eastern history between the Pharaohs and OPEC. Ashtor's account has the merit of defining change by the repetition of the same clearly-posed central questions. The dullest student will thus recognize the importance of the level of real wages in different groups, or the connexions between the extent of the cultivated area and agricultural prosperity.

Ashtor's assumptions too are crudely clear and to the point, often framed with an eye on Marxists. Thus the key to capitalism is the bourgeoisie's accumulation of sufficient capital to control the means of production. Under Islam it was never easy to build large and lasting fortunes, and (unlike the west) harder still to convert them into political power. Warriors usually held the reins. "The apogee of moslem pre-capitalism" occurred under the later Abbasids and Fatimids. Production of rice and sugar took on "a capitalist character" and urban republics were established in Syria and elsewhere. The neverending deterioration of peasant conditions accelerated to create pre-revolutionary situations. Some "genuine social revolts" ensued, the genuine that is for Islam where the aim was for the poor to partake of the rich's opulence, not to attain liberty. Yet freedom was essential in Ashtor's view. Inevitable failure hastened its demise and the west ceded its pre-eminence to Italians and others.

Meanwhile the warriors answered back with a new feudalism. Crusading historians should note that the form which faced the Syrian Latins (the Turkish model) was superior to the "oriental form of feudalism" was a means of securing regular payment of the soldiery" to holders of fiefs "more frequently excluded from any close relationship with local inhabitants and from rights of inheritance."

Lack of space has prevented me to exaggerate the amount of jargon and debatable assumptions. At his best, as in a superb characterization of the Arabs' early adjustment to conquered cultures, Ashtor offers real insight. One can lament the quite unbelievable omission of the crusading states from the Near East and omissions of careful diagrams and long lists of exercises and are undoubtedly good of their kind. The books themselves merit criticism for less than the fact that they should be needed to exist. The really important issue for scholars is the value of so overloading the mathematics components of these courses that such books become necessary.

BOOKS

Real data

Discriminant Analysis
by P. A. Lachenbruch
Collier Macmillan, £6.60
ISBN 0 02 848250 6

Discrete Multivariate Analysis : Theory and Practice
by Y. M. M. Bishop, S. E. Fienberg and P. W. Holland
MIT Press, £15
ISBN 0 262 02113 7

The spate of new books on multivariate data analysis presumably reflects the degree of maturity of the subject and the fact that the methods are now applied to problems in so many different fields. These two new publications should prove useful both to the specialist and to those who are interested only in applying the methods.

The monograph by Lachenbruch is a very readable survey of applied discriminant analysis. After a chapter on the theory of discriminant functions, there are sections devoted to such problems as estimating the error rates, variable selection, non-parametric methods, multiple group problems, robustness to non-normal data and initial misclassification. The text is not as well coordinated as it might be and is occasionally repetitive. In places the treatment is rather sketchy and degenerates into just a list of results—perhaps this is inevitable in a survey of this kind.

The book closes with an extensive bibliography, nearly six hundred items, which will be especially useful to statisticians for its references to the literature of engineering, medicine and psychology. Unfortunately there is no attempt to break the bibliography into more manageable segments by classifying the subject matter of each reference. As a result any user will have to look through the whole list for those which seem relevant to the problem in hand.

The encyclopaedic treatise by Bishop *et al* is concerned with the analysis of frequency or categorical data, especially the problems *encountered with* large multi-way *contingency tables*. A discussion of the log-linear model, maximum likelihood estimators and goodness of fit tests is followed by three chapters on analysing incomplete tables, estimating the size of a closed population from incomplete lists and inference in Markov models. Other topics include accounts of measures of association, and the information theory and Bayesian approaches.

In the main the book is a survey of the authors' previous work and its coverage of contributions by other workers in the field is incomplete. But one feature which is quite outstanding is the large number of data sets from practical situations. These examples are drawn from such varied fields as consumer behaviour, social mobility, politics, medicine and biology. It is a pity that so few authors of texts on statistical inference take the trouble to provide real data of this kind to illustrate the theoretical discussion.

R. J. Reed

Backward development

Quantum Theory of the Chemical Bond
by H. F. Hameka
Collier-Macmillan, £10.25
ISBN 0 02 845 5660 4

Quantum theory occupied a relatively minor part in chemistry undergraduate courses as little as 20 years ago, being held relevant to atoms and a few simple molecules. Its application to more complicated molecules and a wider area of chemical phenomena was not apparent. Since that time quantum theory has become increasingly important to chemists so that now many parts of the undergraduate courses are dominated by it. Over this period the relative importance of various parts of quantum theory to chemists has changed. Two decades ago the dominant book on the subject was Pauling's *Nature of the Chemical Bond*, although Coulson's book *Valence* was beginning to show the way ahead. Without doubt it was the era of valence bond theory with the emphasis on canonical forms and resonance structures. Hybridization was held to be a vitally important concept, providing the explanation for molecular geometry.

There is, at present, an increasing interest in the excited states of molecules and related charged species. This, together with the interest in group theory, which it has brought in its train has led to the traditional role of hybridization being questioned (this, sadly enough, at a time when the concept of hybridization is being introduced with great enthusiasm into every A level syllabus in sight). The advent of crystal field theory caused the inorganic chemist to have doubts about the omniscience of the hybrid orbital, and, while it is likely to continue to be a useful concept for organic chemists even they find that aspects of Woodman Hoffman theory do not fit it too well.

It was against this background that I read Hameka's book on the *Quantum Theory of the Chemical Bond*, anticipating that in it the author would surely show us his prejudices on the way that he sees the subject developing. The answer which emerged is that the author sees the subject developing backwards. Despite a definite bias in the book towards electronic spectroscopy the simplifications afforded by symmetry are given scant attention and in many parts of the book hybrid orbital theory remains supreme, unquestioned (but always, let it be said, in applications in which its use is justified).

The title does not give a particularly good indication of the contents. Few would expect an introductory text on the theory of the chemical bond to discuss nuclear magnetic resonance, electron spin resonance, relaxation phenomena and Davydov splittings in molecular crystals. In so far as the book is about the chemical bond it is about diatomic molecules, their vibrations, rigid rotations and their electronic transitions. Relatively few larger molecules are discussed and where they are the treatment is not likely to commend itself to many chemists. Thus the pi-electron theory of the benzene molecule is included and the complex forms of the eigenfunctions derived in some detail. However, although the real forms of these functions are included we are merely told that "they are sums and differences of the complex functions" (a statement which is true because the definite article is carefully omitted before the word "sums"). No pictures of these orbitals are given and their chemical significance is not discussed (although their eigenvalues are used in the calculation of resonance energies).

The diagrams vary from excellent to poor—the latter probably arising because the artist was given too free a hand. Two examples serve to illustrate the point: 2p orbitals do not have points on them although shown with them in some figures (in several diagrams they are called 2P). When talking of crystal structures we are told "there are six types of elementary cells, which we have sketched in Figure 7.3". Apart from the fact that the statement about six elementary cells is not correct without further qualification (there is an infinite choice of primitive unit cell for any given crystal structure), three of the elementary cells shown in the figure, the tetragonal, orthorhombic and hexagonal elementary cells, are indistinguishable from one another as also are the monoclinic and triclinic. The six elementary cells chosen also happen to be incorrect—it is possible to argue in favour of six such cells (although seven is the more popular number) but not when hexagonal is included and trigonal excluded.

Although the book contains sections which could be read with profit by the newcomer to quantum chemistry (frequently these sections are at the beginning of chapters) the level of the mathematical treatment makes the book more useful to the student who wishes to improve his basic understanding of the subject. For him many of the criticisms which I have made above would not be of particular importance, while the unusual combination of subjects coupled with the individualistic, but very detailed, method of presentation could make this book worthy of study.

S. F. A. Kettle

Thoroughly modern

Concepts of Modern Mathematics
by Ian Stewart
Penguin, 80p
ISBN 0 14 02 1849 1

An Introduction to Modern Algebra
by Burton W. Jones
Collier-Macmillan, £4.75
ISBN 0 02 361250 9

The introduction of "modern" mathematics into schools has created a measure of confusion among parents—and particularly those who, some years ago, successfully completed a traditional course in mathematics and expected their children to do likewise. The widespread assimilation into school curricula of material derived from the initial teaching projects has also confounded many teachers who, whilst appreciating that it is fashionable to modernize the syllabus, are frequently not at all sure what is important and what is not. Ian Stewart has set out to dispel some of the confusion suffered by both parents and teachers.

The book covers many topics including motion geometry, finite arithmetics, sets and functions, abstract algebra (including groups, rings and fields), transcendental numbers, topology, network theory, linear algebra, probability, real analysis and a final section on the foundations of mathematics. Stewart is dealing primarily with pure mathematics, but he provides throughout a stimulating commentary on the nature of mathematics and its relationship with the real world. Two chapters are devoted entirely to applications—one on computers and the other dealing with linear programming and its use in business, the applications of group theory in quantum mechanics, and the "catastrophe theory", which has recently attracted so much attention because of its potential significance in the field of biology and the human sciences.

The author is prepared to turn aside frequently to discuss the kind of thinking which is going on, the role of *intuition* and rigour and the part played by imaginative picture-making in mathematical invention and discovery.

The introductory chapter, "Mathematics in General", is especially valuable and I would like to have seen it extended. The book should be useful to all sixth-formers contemplating mathematics courses in college or university and it should help many teachers struggling with new syllabuses.

Burton Jones has written a comprehensive introduction to modern algebra which is intended as a textbook for university and college students. Although he claims that the book is at a lower level than the well known *Survey of Modern Algebra* by Birkhoff and MacLane the difference seems to be more in style and treatment than in content.

Jones begins with the idea of a group and then develops at top speed a mass of examples to exhibit the group structure; these include vectors, 2 x 2 matrices under multiplication, functions under composition, geometric transformations, symmetries and permutations, number theory and logic.

Although the text is well-supported by a variety of exercises to provide practice in the techniques associated with these important concepts I am doubtful whether the student would be adequately motivated without some previous knowledge of these topics. In the second chapter Jones welds these ideas together under the general concept of isomorphism, deals with equivalence relations and classes, and introduces congruences and finite arithmetics. Cyclic groups follow, leading to a deeper exploration of permutation groups, Cayley's theorem, automorphisms and homomorphism. Chapter three is concerned with fields, integral domains and rings.

The remaining three chapters deal in some detail with vector spaces (including a more general treatment of matrices), ideals and Galois theory.

Historical notes are given at the end of each chapter, some of which are important and useful. A particular feature is the extent to which the author draws on number theory for his examples and the skill with which he is able to generate significant number-theoretical results as a by-product of group theory. There is much material here which could supplement a beginning course in modern algebra, but I doubt whether the work is suitable as a textbook for students without a much stronger background in mathematics than the author suggests is necessary.

Margaret Baron

Reviewers

Among this week's reviewers :
A. R. Birley is professor of history at Manchester University and author of books on Roman Britain and Imperial Rome ;
H. MacL. Currie is head of the department of humanities at Teeside polytechnic and is author of The Individual and the State ;
Professor A. A. Long is Gladstone professor of Greek at the University of Liverpool and author of Problems in Stoicism and Helenistic Philosophy ;
G. R. Watson is senior lecturer in classics at the University of Nottingham ; Professor John Ferguson is director of studies in arts at the Open University ;
Professor A. H. Halsey is director of the department of social and administrative studies at Oxford. His books include Social Class and Educational Opportunity and The British Academic ;
Anthony Manser is professor of philosophy at Southampton University ;
Paul Hyams is a fellow of Pembroke College, Oxford ;

Overcrowded maths syllabuses

Maths for Science Students
Calculus I; Calculus II : Complex Numbers and Differential Equations; Matrices and Vectors; Lecturer's Notes
by Brian Knight and Roger Adams
Allen and Unwin, £1.50 each, Lecturer's Notes, £3 each
ISBN 0 04 517011 8, 517012 6, 510053 5, 510052 7 and 510054 3

According to the introduction to the lecturer's notes, these books are intended "for use in all [HNC, HND, BSc] courses where mathematics is not the primary field of study"; they are well laid out, attractively printed, equipped with careful diagrams and long lists of exercises and are undoubtedly good of their kind. The books themselves merit criticism for less than the fact that they should be needed to exist. The really important issue for scholars is the value of so overloading the mathematics components of these courses that such books become necessary.

Why, in fact, does a scientist or engineer require mathematics? The most likely answer is that no competent scientist or engineer can keep up with the literature in his subject without a good understanding of some fairly sophisticated mathematics. Since, further, there is no way of predicting which aspects of mathematics today's students will need in their professional work, 10 years hence, the syllabus makers seem to have decided that, to prepare for all eventualities, students had best be exposed to as wide a spectrum of mathematical techniques as can possibly be crammed into the time available.

The resultant mathematics courses are so crowded with new subject-matter that proper structuring becomes very difficult; new concepts cannot be explored in depth and their relation to previously established concepts may get lost. In turn, this strips mathematics of much of its inherent interest; a disaster for classes whose main field of study lies elsewhere. In a number of institutions therefore, the engineering and, less often, science departments have argued successfully that they should teach the mathematics courses for "their" students because they can provide plausible applications for a subject that has lost its innate coherence.

Is is precisely this situation that these books are designed to meet; tutors whose main interest is not mathematics (judging by the lecturer's notes, indeed, tutors whose mathematical knowledge may be quite severely restricted in some directions) use their extra-mathematical expertise to inject interest into a vast, shapeless and arid collection of mathematical techniques. No better way of defeating the aims of the courses could be devised; only outstanding students have any chance of acquiring a good understanding of any branch of mathematics (and none will do so if they use only these books), though it is quite likely that a reasonable percentage of the class will satisfy the examiners.

Mathematical acuity is hardly necessary to discern that the structure underlying the majority of the topics covered in these books is vector spaces, nor that a thorough introduction to this structure would give students the perspective they need to cope with the techniques to come. But a thorough introduction to vector spaces takes time and there is no time to spare; nor could one add vector space structure to these huge syllabuses without pruning away some (presumably treasured) techniques. So there are the syllabuses sprawling away over most of the vector spaces that come readily to mind, and never a hint shall there be that the themes of basis, linear independence, linear transformation and kernel keep recurring in different guises. Preoccupied with just the branches felled off some far-distant tree, students must find their own way of giving order to the tangled collection.

Ellen J. Stern

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EYRE METHUEN

LETTERS TO THE EDITOR

Academic publishing

from Mr John Childs

Sir,—In my view, the future of academic publishing lies in microfiche and no longer in the hard and paperback as the medium holds numerous advantages over traditional forms. It is far cheaper than hardback and more durable than paperback and provides the availability of almost immediate reprinting. Production costs are low which means that works of extreme rarity and minority interest can be produced without the publisher incurring a financial risk.

For a historian, such as myself, microfiche can provide source material to use in one's own study without having to travel many miles to check a small point. Consider also the huge number of theses moulding on library shelves: with microfiche these could be published and their information released.

Microfiche offers low cost, an inexhaustible range of potential titles, convenience, and the spread of historical knowledge in a way time an historian without a complete range of basic source materials on microfiche will, hopefully, be a rarity.

Yours faithfully,
JOHN CHILDS,
3 Church Road,
Pulloxhill,
Bedfordshire.

from Mr P. R. Ashby

Sir,—I am pleased to report that in addition to British publishers promoting overseas micropublishers' titles, there are now in excess of 30 college and university booksellers who are equipped to handle and promote microforms and eventually perhaps low-cost viewers to their individual as well as institutional customers.

Admittedly, there is still a great deal of market development to be undertaken together with a rationalization of discounts, which are generally low and at present not firmly established as in the traditional book industry. However, by working together on these "ifs" all concerned in the dissemination of knowledge should benefit, especially the micropublishers who wish to meet the need for more and smaller packages.

The wider markets for the micro-equivalent of the otherwise doomed specialist high level monographs are surely far better served through the trade than direct from the publisher. Authors of such "original" micropublications can expect a normal royalty arrangement and speaking as a micropublisher I can assure librarians that provided custodians of material do not make excessive demands, remuneration of some sort is always incorporated in a microfilming agreement.

Yours sincerely,
P. R. ASHBY,
Managing director,
Oxford Microform Publications Ltd.

Richard III revisited

from Dr Alison Hanham

Sir,—May I correct two matters in Antonia Gransden's review of my book *Richard III and His Early Historians* (*THES*, November 21)?

Dr Gransden says that it does not "seem likely that Dr Hanham would have described Rous in such derogatory terms ('an old-fashioned antiquary rather than a historian—a busy-minded gossip') had she read Sir Thomas Kendrick's *British Antiquity*."

Readers might not think from this that according to Kendrick Rous is best remembered as "a practical antiquary", although he adds that even here "there is not to be candid, very much to be said" (*British Antiquity*, p 27).

Secondly, the statement that Dominic Mancini "visited England during Richard's reign and wrote within three or four months of the battle of Bosworth" is Dr Gransden's, not mine. Mancini appears to have left England soon after Richard's coronation, and the work is dated, as I mentioned, December 1, 1483.

Yours faithfully,
ALISON HANHAM,
Massey University,
New Zealand.

Sociology split

from Professor Donald MacRae

Sir,—The dispute between the British Sociological Association and the new Social Administration Association may well give malign pleasure to the academic community as a whole (*THES*, February 13). Nevertheless the matter of how the SSRC divides its authority structure is of some general interest, and so also are the rival claims of the two associations involved, of social administration as a discipline, and of sociology as a subject in need of research support.

The cry of "a plague on both your houses" is no more satisfying than is the belief that UDI, though bad for Rhodesia, is good for social administration.

Let us begin with the associations. Professor McGregor (*THES*, February 6) says that it is not for the SSRC to discriminate "against one professional body in the supposed interests of another". But this is to beg a case: is either body a *professional* association in the sense that the engineering institutions or the BMA or the Law Society so clearly are (and are these happy objects of institutions)?

I would suggest that for all their huffing and puffing they are clearly nothing of the sort. Nor have they imposed themselves on the world of learning even to the degree which I find regrettable—which has given the British Psychological Society so much clout. A "decision" of the Social Administration Association—the word is Professor McGregor's—is an interesting expression of opinion and nothing more. (The same goes for the BSA.)

Let us look further at the facts about social administration. I would not be so impolite as to challenge an old friend like Professor McGregor to give an account which was at once true, coherent and defensible of social administration as a subject which was not also primarily an account of social administration as primarily a derivative from and a dependent on sociology. The facts are that there are no social administrators—as distinct from teachers of social work—in higher education. There are distinguished sociologists like Professor Pinker, social historians like Professor McGregor, psychologists, economists, and political scientists in social administration departments. (There are also publicists and busybodies and practising politicos—but no department is ever free of such.) Such founding fathers as T. H. Marshall and Richard Titmuss quite clearly had individual academic provenance in definable disciplines.

Let us pursue the point further. In 10 years the SSRC and the foundations have invested in a great deal of research in "social administration". Would someone like to list work that is both good and specifically "social administration" from that decade? (Work, to be good, I suggest must satisfy several criteria—including that of opening paths to further research of quality.) Or let us look at first degrees in social administration.

Some of the degrees in this area seem to me exceptionally well designed—more thought was expended, I think, on their design in polytechnics than in universities. But it is surely clear that anything which deserves to be an honours degree ought to give the better students knowledge, skills and critical competence so that, if they wish, they can go on to studies and researches at the least up to the PhD level.

I can think of no decent honours degree in the social administration area: in which such studies and research would not normally come under the rubric of sociology. Thus, though such degrees involve an element of synthesis—and why not?—it is hard to deny what is their core, and that core is sociology. (There are, as, degrees made up of unrelated pieces badly joined—examples, to use the language of sociology of "mechanical", not "organic" solidarity but one would not wish to defend them under whatever title they go forth.)

All these things may change. I would like to see stronger omens than the mere assertions of interested parties. (One road to change might be by way of philosophical studies, but it is not being taken.) But from the above it should not be assumed that a new deployment of SSRC resources and committees is undesirable.

It is no good saying (*THES*, February 13) that "the SSRC has no standing in the internal affairs of disciplines". In a perfect world this would be true—and also there would be no case for an SSRC. But in the real world its standing has been and is immense. Sociology has benefited very little. Either the SSRC should be neutral towards all claims, moved only by scholarly, intellectual and imaginative criteria, or it should be moved by considerations of the "Rothschild ideology" kind—I put the slightly unfair phrase in quotes—and by governmental contracts.

Long before "Rothschild" the SSRC bias in sociology—it goes back to its foundation—has been to "users" and to the claims of glamorous public virtue and to fashions (like, for example, "action research" and futurology). Now there was no wickedness in this. The result, however, has been that sociologists with sociological problems have been reluctant to go to the SSRC or ill-rewarded by it, and the subject has suffered.

The long, forced marriage with social administration has been a sterilizing experience. Let social administration look after itself and justify itself not by the protestation of virtue but by works if it can and let us see an SSRC committee in sociology alertly caring for that fruitful discipline.

Yours sincerely,
DONALD MacRAE,
Professor of Sociology,
London School of Economics.

from Mr Frank Gould

Sir,—Is not the current dispute between the BSA and SAA simply yet another example of the conflict between historical / institutional arrangements and developments in the map of knowledge which is becoming so commonplace in higher education? Most problem-oriented areas in the Social Sciences developed out of or in close association with particular disciplines—social administration with sociology, development studies and industrial relations with economics, environment and planning with geography, and so on.

However, while intellectual and educational pressures have been working towards explicitly recognizing and integrating the contributions of disciplines other than the "parent", historical/institutional arrangements have inhibited this development. Professor Pinker (*THES*, January 30) is surely correct in asserting the "equally strong connexions" of social administration with other social sciences such as economics and political science. The same could be said, *mutatis mutandis*, of development studies, industrial relations, environment and planning.

The contribution of disciplines other than sociology to social administration is certainly recognizable in the works of Titmuss and Townsend, to name but two, and what modern social administration course would be satisfactory without including such contributions as, say, Atkinson's *The Economics of Inequality*?

Economies dominated development studies for a long time but recall some of the havoc economists armed only with economics have wrecked on the Third World.

Experience shows us that until problem-oriented areas are established as entities in their own right, rather than historically bound appendages of some discipline, they will never realize their potential.

Yours faithfully,
FRANK GOULD,
Principal lecturer in integrated social sciences,
The Polytechnic of Central London.

from Dr Otto Newman

Sir,—Not even Professor Pinker's potent advocacy persuades one of the wisdom of splitting the present SSRC sociology and social administration committees into two autonomous boards, especially at a time when the two disciplines have, over wide fields of academic activity, gained far greater levels of fusion and interdependence.

However lofty their intellectual endeavour, few sociologists would nowadays neglect to take account of empirical social realities, while those working at the more pragmatic end have increasingly come to operate within a predominately sociological framework of professional orientation.

Now that the issue is receiving currency, a possibly more troubling aspect may well merit consideration. By general consent, in recent years some of the most valuable sociological contributions—concerned with production no less than transmission—have come from within the second tier of the binary sector. Yet, membership of the relevant committee continues to be drawn exclusively from amongst the university orbit. Nothing would stand further from one's intent than seeking to impute ignorance or bias to this highly qualified and dedicated body of academics.

The problem is both simpler as well as more complex. By long standing tradition, polytechnics are institutions committed to a largely technical ethos, distinctly oriented towards vocational emphasis, vaguely apprehensive of all that "the sociological imagination" implies, and far from convinced of the very legitimacy—let alone pragmatic utility—of research within that subject area.

All too frequently social science staff may come to look upon themselves as cultural marginals, insulated from the mainstream of institutional life, and furthermore seemingly second-ranked within their predominant professional reference groups. However unwarranted such perception may be, its very existence poses an invisible, and frequently insurmountable barrier to research project formulation and subsequent formal submission.

Thus widening of representation rather than fragmentation may well still some of the grievances, incipient as well as overt. Not merely applicable to those working beyond the university sector, but equally appropriate to those engaged in the contingent, yet central areas of academic activity.

Yours faithfully,
OTTO NEWMAN,
Head of sociology,
Polytechnic of the South Bank.

Sheffield AUT and polys

from Dr Andre S. Lince

Sir,—While the university teachers have every right to clamour their grievance, their repeated attacks on their brethren in polytechnics can only back-fire on the "colosse aux pieds d'argile". Is it not telling that the edited extracts from the memorandum of the Sheffield University AUT open on a reference to the Robbins' report (*THES*, February 2)? Indeed their outburst appeared alongside two contributions which may check, in the future, the demigods' outcry.

First, Lord Robbins's pronouncements are a sober reminder that the higher education dispensed in our universities is not free from criticisms. More important, as the Sheffield AUT based much of its dissatisfaction on their research effort, the balance was established on the opposite page in an article illustrated summary of the SRC's bounties lavished on universities.

Much could be said on the invidious comparison between the long-established universities and the recently designated polytechnics and their respective staff. Perhaps, we would do well to look beyond statistics and paper-qualifications, although I hasten to add that some polytechnic lecturers have even produced two doctorate dissertations and are therefore as worthy of their teaching positions as the members of the Sheffield AUT.

Yours sincerely,
ANDRE S. LINCE,
Faculty of arts,

from Mr D. E. Davinson

Sir,—*The THES* would do a service to truth and honesty in education by refusing to accept any further exposés of the unfavourable position of universities as compared to polytechnics along the lines of the Sheffield AUT memorandum.

There are statistical ingenuels and persons who still believe in the integrity and objective impartiality of universities who will believe they are reading valid comparisons and draw wrong conclusions about the relative states of each sector. It is best, perhaps, to ignore the bad taste apparent in a group of academics in a city attacking their counterparts in the same city but it is not possible to ignore the flagrantly cynical selection of "facts" used to support the case.

It is time a serious study was done of the means by which partial comparisons might be made of the relative situations of polytechnics and universities. Such a study would either count all students as one student or apply the same weightings to part time and post-graduate students in polytechnics as that common in Universities.

It would bring into the equation the very significant question of the levels of support staff in each type of institution. It would assess the social and physical ambience of typical representatives of each sector. If in a poly one shares a room with six others of a size usual for a junior lecturer in a university it is hard to be blamed for not spending any longer than one need in such an atmosphere.

Perhaps a study could also include professional valuations of the cost per student (or learner) of site, buildings and plant in the two sectors. It might assess the value of professional and other non-university qualifications which polytechnic staffs possess in abundance against the higher proportions of degrees and further degrees in some university sectors.

It could compare unit costs in universities without medical schools with polytechnics with almost equally expensive art faculties.

The plea is really to protect AUT against themselves until a real measuring standard can be achieved. It is not pleasant to see them behaving as they are presently. Specious and mischievous behaviour and the whining about differentials looks bad coming from an irresponsible trade union from the scruffier end of the industrial spectrum but they can often be excused for not having the intelligence to know any better.

Yours faithfully,
D. E. DAVINSON,
Head of department of librarianship,
London Polytechnic.

more letters page 24

LETTERS TO THE EDITOR

Select committee on science

from Dr J. A. Edgington

Sir,—In your editorial comments (*THES*, February 6) you castigate, rightly, the mere publication of statistics bereft of any indication of their significance. You commend, in this respect, the Report of the Select Committee on Science and Technology, referring in particular to their uncovering of "a handful of highly-favoured University scientists".

My reading of the report suggests that the committee is as guilty of misrepresentation as the Government departments with which you contrast it. The sauce is laden with concentration indices, Spearman coefficients and the like; but one vital fact is omitted, namely that Science Research Council grants to large groups or research units are nominally awarded to the individuals who head them.

The really large grants are nearly all destined to support the employment of staff, and the provision of capital equipment and running costs, in units often comparable in size with entire university departments. Dozens or scores of staff, and not the titular head alone, are the real beneficiaries.

The concern expressed by the Select Committee seems to me a good deal less convincing in the light of this simple fact.

Yours faithfully,
J. A. EDGINGTON,
Department of Physics,
Queen Mary College,
University of London.

Libraries and customers

from Jean Hubbard and Ivor Lloyd

Sir,—Messrs Brewer and Hills are correct in their assessment of a university library (*THES* January 30) as a "Service-orientated organization", but we would express it as a "customer-orientated service". This directs the library's attention outwards to the needs of the periphery of the organization with its population of students and teaching colleagues, as well as inwards to the core of the system and its preoccupation with providing effective service and fulfilling the professional needs of the librarians.

Adam Smith (a native of this town) said 200 years ago in *Wealth of Nations* that "consumption is the sole end and purpose of all production; and the interest of the producer ought to be attended to, only so far as it may be necessary for promoting that of the consumer. . . ."

He was and is right. We have had a dozen years of experience in Kirkcaldy of instructing all ages and stages in the use of the library. Whatever the age, the ability or the course, there is one common element: don't wait for the customers to come to you, but go out to the customers and listen.

Where does one come across these paragons? In the tutorials and seminars of teaching colleagues, mostly, but opportunities for self-advertisement on other peoples' premises can also occur. The main point is to establish a bridgehead where teaching colleagues already have relaxed and secure working relationships and where members of the library staff can be welcomed to join in the proceedings.

Yours faithfully,
JEAN HUBBARD, tutor-librarian,
IVOR LLOYD, assistant librarian,
Kircaldy Technical College.

Should colleges be audited?

from Mr James Strawson

Sir,—Mr Gradgrind would have found Mr Moore's proposals (*THES*, February 6) for an educational audit of a college's performance most acceptable. Administrators in all aspects of education, not least higher and further education, should indeed be mindful of their responsibility to spend public money wisely and keep an eagle eye on such factors as staff: student ratios and unit costs.

However, it is possible that the establishment of an audit team whose "membership and criteria were accepted in advance by the subject college" would require the political diplomacy necessary to achieve the impossible. Moreover, who would audit the audit team, and could the costs of the exercise be justified when related to the consequent action?

By its very nature much of a college's activity is not measurable in pure audit terms, and the undoubted benefits of an audit should therefore always be assessed against the sum of its least educational aspects, when the students in a lecture room become an "inclined plane of little vessels there and then arranged in order, ready to have imperial gallons of facts poured into them, until they are full to the brim"—and ready for the audit team!

Yours faithfully,
J. W. A. STRAWSON
Chief Administrative Officer,
Madeley College of Education.

Learning and leaflets

from Mr R. F. Hall

Sir,—If it is satisfying to the ego to have one's successes proclaimed in public, it is less so to be reminded of failure. If I pick out one of each I may escape a charge of narcissism and succeed in my aim of being helpful.

In two previous years I asked those on PNL's standard mailing list to comment on our prospectus. About 10 per cent did so, and a recurrent theme was the absence of any information on living in London. The section which attracted Tony French's interest was written by a postgraduate student on a one-year course who had faced the problems herself. It is certainly worth listening to schools in such matters and worth bringing first-hand experience to bear (though it means I cannot claim credit for the style and tone).

Over a similar period I have asked departments to give the information that Tony French would like to see about numbers and grades. Some brave souls have indicated the grades they require and most have stated the intake targets but all are coy about demand. The reasons are various and to be respected, but I would like to convince admission tutors of the desirability of coming clean. Would others care to join me in this debate?

Yours faithfully,
R. F. HALL,
Academic Registrar,
The Polytechnic of North London.

Entry balance

from Mr S. Meikle

Sir,—Your leading article (*THES*, January 23) implies, without openly stating, that universities can be expected not to want to play their part in accommodating new categories of student. The suggestion seems to be that university authorities are resistant to change in matters concerning the composition of their annual entry.

This suggestion has no foundation in fact, at least in the case of the Scottish universities. The decade 1962-72 saw very considerable changes in the composition of the entries to these institutions.

The working-class entry as a proportion of the total during this period of expansion declined from 35.4 per cent to 29.4 per cent. And in the case of the male working-class entry to the ancient Scottish universities an even more sweeping change was effected: this declined from 22 per cent to 14 per cent.

The Arts Faculty of Glasgow University has taken a serious enough view of these changes to establish a committee to review its entrance requirements. It is hoped that the findings of this committee will be such as to contribute substantially, so far as the faculty's own intake is concerned, to wresting from middle-class school-leavers their increasing command of the Hon's share of the available resources in university education.

Yours faithfully,
S. MEIKLE,
Department of Moral Philosophy,
University of Glasgow.

In Parliament

Mr Bruce Grocott (Labour, Lichfield and Tamworth) asked the Secretary of State for Education and Science if he would list for each polytechnic the total staffing costs and the total number of students, expressed as full-time students, for each of the academic years 1970-71 and 1974-75.

Mr Mulley said teaching staff cost data were available only for financial years. On this basis the information was as follows:

TABLE A
POLYTECHNICS IN ENGLAND AND WALES

Polytechnic	1970-71 Student No (as full-time equivalents) November 1970	1970-71 Teaching Staff costs (£000 outturn prices)	1974-75 Student No (as full-time equivalents) November 1974	1974-75 Teaching Staff costs (£000 outturn prices)
Birmingham	—	—	4,539	9,289
Brighton	2,414	936	2,459	1,784
Bristol	2,962	1,362	2,525	2,291
Hatfield	1,828	900	2,403	2,122
Huddersfield	1,432	841	2,330	2,401
Lanchester	2,584	1,496	3,515	2,918
Leeds	2,504	1,471	4,451	3,199
Leicester	3,144	1,281	3,526	2,839
Liverpool	4,599	1,453	4,182	3,335
Kingston	2,780	1,170	3,222	2,614
Middlesex	—	—	5,225	3,825
N E London	3,583	1,518	4,411	4,264
City of London	4,098		4,070	
Central London	3,936		3,810	
North London	—	6,537 (1)	3,811	13,102 (1)
South Bank	—		3,619	
Thames	4,023		2,039	
Manchester	1,841		5,031	3,831
Newcastle-u-Tyne	4,556	1,739	5,361	3,169
N Staffordshire	3,033	1,142	2,478	2,279
Oxford	2,382	1,139	2,280	1,740
Plymouth	1,708	773	1,728	1,536
Portsmouth	1,516	495	4,455	3,663
Preston	3,900	1,725	1,378	1,271
Sheffield	—	—	5,230	2,852
Sunderland	2,446	946	2,062	1,886
Teesside	1,670	855	1,787	1,518
Trent	1,559	581	4,702	2,902
Wolverhampton	3,608	1,172	2,275	2,188
Wales	2,234	1,052	1,573	1,875
	1,273	571		

(1) These five polytechnics are all administered by the ILEA.
Separate cost data are not available for each institution.

Mr Kenneth Baker (Conservative, City of Westminster, St Marylebone) asked how many students were at universities, in non-university further education, and at teacher colleges in each of the past five years; and what was the forecast for each of these for 1980.

Mr Grocott asked for lists of the total staffing costs and the total number of students for each university, expressed as full-time students for each of the academic years 1970-71 and 1974-75.

Table B relates to the academic years 1970-71 and 1973-74 as information was not available for 1974-75.

Teachers—Miss Joan Lestor, Under Secretary of State, said the Advisory Committee on the Supply and Training of Teachers was being invited to review the prospects for the teaching force over the next decade in the light of the economic situation and the falling birth-rate.

Student grants—Mr Fowler, Minister of State for Education and Science, said he expected to meet the NUS before the student grant rates for the academic years 1976-77 were settled. It was open to all students to send him their views on any aspect of student grants.

Answering questions from Mr Ralph Howell (Conservative, Norfolk, North) Mr Fowler said a special survey for 1972-73 showed that about 20 per cent of students received L.e.a. full value awards for study at universities and further education establishments received maximum grant. Similar information for other years was not available in the department.

The corresponding proportion of students with minimum—£50—grant was 5 per cent in 1961-62, 6 per cent in 1970-71 and 7 per cent in 1973-74. No information was available in the department about the percentage of students who received less than half of the full grant.

Mr Howell asked the minister to publish for the years 1960, 1970 and 1975 a table showing, as a percentage of average earnings (a) the level of income at which parents became liable to contribute towards the cost of their offspring at college or university and (b) the level of income at which the local authority paid only the minimum allowance.

Mr Fowler said Table D gave the information requested for students receiving full value awards from an l.e.a. for degrees or comparable courses.

Polytechnics—Mr Fowler said it was expected that by 1981 there would be some 14,500 teacher training places in polytechnics.

Teaching companies—Mr Gow asked the Secretary of State for Industry what discussions had taken place with manufacturing companies regarding the formation of teaching companies.

Mr Carmichael said discussions had taken place with several manufacturing companies, seven of which had taken part in detailed feasibility studies. Pilot schemes had started in three prospective teaching companies.

TABLE B
UNIVERSITIES IN GREAT BRITAIN

University	1970/71 Student numbers (as full-time equivalents) December 1970	1970/71 Academic staffing costs (£000 out-turn prices)	1973/74 Student numbers (as full-time equivalents) December 1973	1973/74 Academic staffing costs (£000 out-turn prices)
Aston	3,206	1,599	3,930	2,276
Bath	2,035	956	2,807	1,414
Birmingham	6,993	3,861	7,622	5,703
Bradford	3,654	1,490	3,645	2,221
Bristol	6,124	2,940	6,242	4,353
Brunel	1,935	794	2,237	1,373
Cambridge	10,720	4,222	11,368	5,685
City	2,405	1,176	2,166	1,597
Durham	3,446	1,346	3,883	1,920
East Anglia	2,646	882	3,053	1,491
Essex	1,904	609	2,007	1,013
Exeter	3,432	1,155	3,713	1,789
Hull	3,984	1,397	3,963	2,080
Keele	1,938	739	2,203	1,128
Kent	2,243	890	2,583	1,423
Lancaster	2,828	1,019	3,133	1,758
Leeds	9,182	3,832	9,625	5,606
Leicester	3,432	1,262	3,653	1,951
Liverpool	6,976	3,167	7,288	4,527
London Graduate School of Business Studies	260	164	276	159
London	38,286	20,942	39,944	28,874
Loughborough	2,528	995	3,066	1,673
Manchester Business School	112	125	129	196
Manchester	8,551	4,367	9,700	6,123
Manchester Institute of Science and Technology	3,548	1,783	3,483	2,581
Newcastle	5,964	3,000	6,384	4,113
Nottingham	5,492	2,023	6,922	3,632
Oxford	11,043	4,205	11,346	5,930
Reading	4,413	1,778	4,999	2,851
Salford	3,723	1,605	3,692	2,288
Sheffield	5,931	2,662	6,710	3,660
Southampton	4,520	1,975	4,664	2,917
Surrey	2,544	1,146	2,612	1,672
Sussex	2,713	1,361	3,763	2,049
Warwick	2,006	745	3,054	1,244
York	2,419	830	2,724	1,311
University of Wales	14,812	6,397	15,654	9,324
Aberdeen	5,700	2,034	6,020	3,170
Dundee	2,599	1,427	2,619	2,007
Edinburgh	9,568	4,231	9,872	5,988
Glasgow	8,508	4,086	9,155	5,788
Heriot-Watt	2,311	732	2,408	1,193
St Andrews	2,619	962	2,987	1,462
Stirling	1,155	457	2,051	1,075
Strathclyde	5,661	2,398	6,601	3,443

TABLE D

Academic year	Level of residual income at which parents become liable for a contribution towards student award *		Example of level of parental residual income at which students received a minimum £50 cash award *†	
	Annual amount £	As percentage of average industrial earnings per annum‡	Annual amount £	As percentage of average industrial earnings per annum‡
1960/61	525	69	2,294	302
1970/71	900	62	4,930	338
1975/76	2,200	71	9,450	304

* Residual income is gross income for the preceding financial year less deductions allowable for student award assessments. These include allowances for other dependent children, mortgage interest, etc. but not income tax.
† Relates to the assessed contribution for the maintenance and average fees less £50 for a student living away from home to study at institutions other than Oxford and Cambridge universities or colleges in London.
‡ Average industrial earnings is the average gross weekly earnings in October—expressed as an annual amount—of full-time manual men aged 21 years or over in manufacturing and certain other industries covered by the Department of Employment's regular annual enquiry.

Planning figures for higher education as a whole and for non-advanced further education over the next five years will be published shortly in the White Paper on Public Expenditure. The division between maintained and university institutions has to be discussed with those responsible for their planning.

Classified Advertisements

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Colleges and Departments of Art
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Other classifications

Awards
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For Sale and Wanted
Courses
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Universities

The British Council

invites applications for the following posts :—

Lecturers in English (Iraq)

Department of European Languages, Basrah University Graduates with TEFL qualification. University teaching experience desirable.
Salary : £2400-£3000 pa (BA) ; £3000-£5000 pa (MA) ; £5000-£7000 pa (PhD).
Benefits : free semi-furnished accommodation or housing allowance ; no local taxation ; 2 months passage-paid annual leave plus 2 weeks mid-year break. One-year contract, renewable. 76 AU 1-4

Lecturer in English Language (Egypt)

Ain Shams University, Cairo
Candidates, preferably aged 30-45, must have a degree in English or Modern Languages, a TEFL qualification, and 5 years' experience, including 2 years' TEFL.
Salary : £4076-£5106 pa.
Benefits : free furnished accommodation ; overseas and children's allowances. Two-year contract, renewable. 76 AU 5

Return fares are paid. Local contracts are guaranteed by the British Council.

Please write, briefly stating qualifications and length of appropriate experience ; quoting relevant reference number for further details and an application form to The British Council (Appointments), 65 Davies Street, London W1Y 2AA.

BRUNEL UNIVERSITY

SCHOOL OF SOCIAL SCIENCES
DEPARTMENT OF LAW

Senior Lectureship in Law
Lectureships in Law

Applications are invited for three or more lectureships in Law, effective from September 1, 1976. It is intended that one appointment should be to a Senior Lectureship. The Department will consider candidates from all fields, but it is particularly interested in those with interests in one or more of the following : Welfare Law, Landlord and Tenant Law, Criminal Law, Evidence and Procedure, Equity and Trusts, Commercial Law, Company Law, EEC Law, Public International Law, and the Law of Intellectual Property.

The Department of Law is in the School of Social Sciences. The challenging features of legal studies at Brunel are its mixed LL.B. (which nevertheless contains the usual professional exemptions) and the scheme of practical training made possible by a four-year degree operated on the "sandwich" system, whereby the student during the first three years spends three lengthy periods in training in a range of pre-selected jobs arranged through the offices of the University. The Department teaches a full undergraduate programme leading to the LL.B. degree. In collaboration with the Department of Sociology it also runs a 4-topic-year M.A. in Sociology and Law.

Brunel has the advantage of easy access to London on the one hand and to the Chilterns on the other. Salary according to qualifications and experience within the Lecturer scale £3,129 to £5,448 and Senior Lecturer scale of £5,940 to £7,740, plus £280 London Allowance in either case, with F.S.S.U.P.S. benefits.

Forms and further particulars from the Assistant Registrar (Establishment), Brunel University, Uxbridge, Middlesex (telephone Uxbridge 37184, extension 49). Closing date March 12, 1976.

RHODES UNIVERSITY
GRAHAMSTOWN
SOUTH AFRICA

Applications are invited for the following posts from as early a date as possible :

LECTURER/JUNIOR LECTURER IN COMPUTER SCIENCE

The salary scales are :

Lecturer, R6,300 x 360—9,180 per annum.

Junior Lecturer, R4,920 x 180—5,100 x 240—8,300 x 360—8,600 per annum.

(Note : R1 equals approximately 56 n.p. sterling)

The initial salary in each case will be determined according to qualifications and experience. A vacation savings bonus is also payable and the successful applicants will become members of the University's pension and medical aid schemes.

Full curriculum vitae including personal details, accompanied by copies of recent testimonials and a photograph, should reach the Registrar, Rhodes University, Grahamstown, 6140, South Africa, by 5th March, 1976.

UNIVERSITY OF BRADFORD

CHAIR
IN
PHARMACEUTICAL TECHNOLOGY

Applications are invited for this newly established Chair. The successful applicant will be responsible for organization of teaching and research in the subject area of Pharmaceutics. Further particulars from the Registrar, University of Bradford, Bradford, West Yorkshire BD7 1DP. Closing date for receipt of applications March 22, 1976.

UNIVERSITY OF BRADFORD

ABERDEEN
THE UNIVERSITY
LECTURERSHIP IN LINGUISTICS

Applications are invited for the above post from candidates with qualifications in Linguistics and preferably also in Applied interest in phonology. Salary on scale £2,724-£4,446 with superannuation benefits.

Further particulars from the Secretary, The University, Aberdeen, with whom applications (two copies) should be lodged by 12th March, 1976.

ABERYSTWYTH
THE UNIVERSITY COLLEGE OF WALES
DEPARTMENT OF AGRICULTURAL BOTANY

DEMONSTRATOR/RESEARCH ASSISTANT to investigate the relations of lichens to acidity and their tolerance of air pollution in a grant-aided project at the University of Aberystwyth or Bangor. A 2:1 in a relevant science degree is required.

Applications of candidates as soon as possible, tenable to September 1977.

Salary range £2,174 to £3,096 per annum.

Application forms available from the Registrar, Aberystwyth, closing date 8 March 1976.

BATH
THE UNIVERSITY
SCHOOL OF SCIENCE
RESEARCH ASSISTANT

Applications are invited for the post of Research Assistant in the Department of Chemistry.

Candidates should be graduates in one of the disciplines of Chemistry, Biochemistry or Chemical Engineering.

Starting salary in the range £2,174 to £3,096 per annum.

Application forms and further particulars may be obtained from the Registrar, The University, Claverton Down, Bath BA2 7AY, to whom completed forms should be returned by 8th March, 1976. Please quote reference No. 23.

BIRMINGHAM
UNIVERSITY OF ASTON
MANAGEMENT CENTRE
RESEARCH UNIT

RESEARCH ASSISTANT

A vacancy exists for a Research Assistant to work with Professor John Child on an S.S.R.C. supported study of industrial relations, organization orientations and identification. Candidates should be graduates in the social sciences or related fields, born or in employment from perhaps possible date to December 1976. Commencing salary £2,796 per annum.

Application forms and further particulars are available from the Staff Officer, University of Aston in Birmingham, Gosta Green, B4 7ET, quoting Ref. No. 1007. Completed forms should be returned by March 12, 1976.

BIRMINGHAM
UNIVERSITY OF ASTON
DEPARTMENT OF MODERN LANGUAGES

SENIOR LECTURER

Applications are invited for a Senior Lectureship in any area of the German language, literature and Modern Languages. Salary scale £4,446-£5,940 per annum. Appointments are superannuable, to the first point of the scale.

Application forms and further particulars may be obtained from the Staff Officer (Academic), The University, Gosta Green, Birmingham B4 7ET, to whom completed forms should be returned not later than 12th March, 1976.

BRADFORD
THE UNIVERSITY
SOCIAL WORK RESEARCH CENTRE

LECTURER

Applicants should have a good degree in Psychology or Sociology, or Educational Studies, and be committed to social work research. Experience of social work or teaching would be desirable, but not essential.

The successful applicant will join an interdisciplinary research team concerned with the development of methods of assessing the effectiveness of different forms of social work intervention. Salary on scale £2,724 to £4,446 per annum, according to age and experience.

Further particulars and application forms from the Secretary, The University, Bradford, West Yorkshire BD7 1DP, to whom completed forms should be returned by 5th March, 1976.

BRADFORD
THE UNIVERSITY
DEPARTMENT OF PHYSICAL BIOCHEMISTRY

Applications are invited for the following appointments :

Duties will include undergraduate teaching, supervision of research and research work in the fields of research : the physical properties of biological macromolecules in solution ; interacting systems and ligand binding ; theoretical and experimental studies on translation state and active site conformation for enzyme catalysed reactions ; kinetics of enzyme inhibition by surfactants and related drugs. Research Fellows should have at least a Ph.D. degree or equivalent experience.

Information on the facilities available may be obtained from Professor Christopher Hall (Head of Department of Physical Biochemistry, Medical School) or Dr. W. Nicholl in the University.

Closing date : 16th April, 1976.

FACULTY OF ASIAN STUDIES

LECTURER IN CHINESE

Appointment will be in the Department of Chinese Studies and successful applicant will be required to take up duty in early September, 1976.

The post will be required to teach both Modern and Classical Chinese to degree level. Modern Chinese will be taught to students who will have to read newspapers and journals, and to translate Chinese into English and vice-versa, using appropriate reference materials. Teaching experience and publications are essential, and higher degree desirable.

Closing date : 20th March, 1976.

Salaries : Salary on appointment to the posts will be in accordance with qualifications and experience within the following scales : Lecturer A £3,096-£4,446 per annum ; Lecturer A £3,096-£4,152 per annum ; Current exchange rates £A1.7 £sg1 : $US1.80.

Other conditions : Tenure : Pensions : Normally for three years in the first instance with possibility of renewal for five years. Lecturer normally on probation for one year. Residence with provision for removal expenses will be required to fulfilling any.

Passages : travel expenses are paid. Superannuation benefits available.

The University reserves the right not to make an appointment or to make an appointment at a lower level than advertised. Prospective applicants should obtain further particulars from the Association of Commonwealth Universities, 36 Gordon Square, London WC1H 0PF.

DURHAM
THE UNIVERSITY
TEMPORARY LECTURERSHIP IN MATHEMATICS

Applications are invited for a temporary lectureship in Mathematics tenable from 1st October, 1976 for one year, with the possibility of renewal for a further year. Salary on the scale £2,724 to £4,446 per annum.

Further particulars may be obtained from the Registrar, Elvet Hill, Durham DH1 3LE, to whom three copies of applications should be sent by 8th March, 1976.

CARDIFF
UNIVERSITY COLLEGE

Applications are invited for a

LECTURER IN EDUCATION (Curriculum Development) in the Department of Education.

Salary scale £2,724-£4,446 per annum.

Applicants, preferably with the basic degree and experience of teaching in secondary schools, should have a special interest in curriculum development and evaluation.

Further particulars and application forms may be obtained from the Registrar, University College, P.O. Box 78, Cardiff CF1 1XL, to whom applications should be returned by 15th March, 1976.

EDINBURGH
THE UNIVERSITY
DEPARTMENT OF PSYCHOLOGY

UNIVERSITY DEMONSTRATOR

Applications are invited for a temporary post in the University Department of Psychology tenable for one year from 1st October, 1976 or as soon thereafter as may be arranged. Candidates should have qualifications and interests in Organization Theory, Human Relations, Psychology or generally in the field of Business Studies.

Salary scale is £3,174 to £4,497 with contributory pension rights under the F.S.S.U.P.S. Initial placing on the scale will depend on qualifications and experience. Assistance is available with removal expenses.

Applications should be received by 20th March, 1976. Further particulars may be obtained from the Personnel Officer, The Queen's University, Belfast, BT7 1NN, Northern Ireland. (Please quote Ref. 76/THES.)

BIRMINGHAM
THE UNIVERSITY
FACULTY OF COMMERCE AND SOCIAL SCIENCE
RESEARCH ASSISTANT IN THE DEPARTMENT OF INDUSTRIAL RELATIONS AND BUSINESS STUDIES

Applications are invited for the post of Research Assistant (£3,096 to £4,152 p.a.) to work on the project "Industrial Relations Aspects of Technological Change" financed by the S.S.R.C. The project is a large scale linear programming model with computer facilities. The person appointed to develop and maintain the model will have responsibility for the collection of data, and will assist in the analysis of the results. Initially each person will work on one of the following : Barnsley, Liverpool or Black Country, but will be expected to move between projects as time progresses. Applicants should have a background in economics and preferably also in mathematics and be familiar with linear programming techniques and the use of computers. Salary will be in the range £3,096 to £3,771 starting as soon as possible and for a period of twelve months in the first instance.

Applications (3 copies) naming three referees (1 of whom should be the present or last employer) should be sent to Assistant Registrar (A), University of Birmingham, P.O. Box 363, Birmingham B15 2TT, from whom further particulars and application forms can be obtained. Please quote reference C/149/RR.

BRADFORD
THE UNIVERSITY
VICE-CHANCELLOR'S OFFICE (PLANNING SERVICES UNIT)

SENIOR ADMINISTRATIVE ASSISTANT

Applications are invited for the above post from graduates, or candidates with equivalent personal qualifications. The salary will be £3,771 per annum. The responsibilities will be for co-ordination of and participation in the preparation and analysis of existing non-financial statistical and management data as well as preparation of special reports, memoranda and papers for committees. The successful candidate will have an interest in the growth of the University and will be expected to undertake any other reasonable duties as may be required.

Applications, by letter (two copies) including a statement of the candidate's interests, a curriculum vitae and the names of at least two referees, should be sent to the Secretary to the University, University of Edinburgh, Old College, South Bridge, Edinburgh EH8 9YL, from whom further particulars may be obtained. The closing date for applications is March 5th, 1976. Please quote Ref. No. 1003.

EAST ANGLIA
THE UNIVERSITY
Norwich

LECTURESHIP
DEVELOPMENT STUDIES
(Farm systems/land reform)

A candidate is sought who is interested in and experienced in the technical, economic and social problems of agriculture in relation to land reform and the development of peasant agriculture. The successful candidate will be expected to undertake teaching and research in the field of farm systems and land reform, and to participate in the teaching of the Overseas Development Group. Applicants should have a relevant degree and preferably a higher degree in a relevant subject, and should have had experience of living and working in developing countries.

Salary will be within the scale £2,724 to £4,446 per annum, with superannuation.

Applications (3 copies) naming three referees, should be sent by 8th March, 1976 to the Registrar, University of East Anglia, Norwich NR4 7TJ, from whom further particulars may be obtained. Please quote reference C/149/RR.

EDINBURGH
THE UNIVERSITY
FACULTY OF MEDICINE

SURGICAL RESEARCH FUND

Applications are invited for the Research Fellowship in the Surgical Research Fund. Stipends will be in accordance with the scales for Research Assistants in the University, namely £3,096 to £4,152 per annum (there may be additional payments for those with higher degrees).

Applications should be sent to the Secretary of the University, 7 Bristo Place, Edinburgh EH1 1EZ, from whom further particulars may be obtained. Closing date 15th March 1976.

HULL
THE UNIVERSITY
FACULTY OF LAW

Applications are invited for the post of LECTURER in Law. Salary scale £3,174 to £4,497 per annum, plus £280 London Allowance if appointed.

Applications (six copies, quoting reference 57/05/THES) including a curriculum vitae and the names and addresses of two referees, should reach the Registrar, University of Hull, Cottingham Road, Hull HU6 7RX, from whom further particulars may be obtained, by 2nd March, 1976.

LONDON
THE UNIVERSITY
KING'S COLLEGE

ADMINISTRATIVE ASSISTANT IN CHEMISTRY

Applications are invited for the above vacancy from graduates with appropriate training and/or experience and an interest in administration of a modern laboratory. The University Department of Chemistry at King's College contains about 40 academic staff and 200 undergraduates and postgraduates and is well equipped for research. The post does not provide opportunities for research of teaching.

Salary scale : £2,766 to £4,056 per annum, plus £280 London Allowance (at present £296 per annum under review). U.S.S. benefits would be payable.

Further particulars and application forms from : The Registrar, King's College, Strand, London WC2R 2LS, and should be returned to him by not later than 15th March 1976. Quoting reference YIALS/1972.

LONDON
UNIVERSITY COLLEGE LONDON

LECTURESHIP IN ECONOMICS

Applications are invited for the post of LECTURER in the Department of Economics, tenable from 1 October, 1976. Candidates in the early stages of their careers will be considered with interests in the area of information, decision and control, with preference given to those with a psychology, though preference may be given to those with interests in the area of information processing and/or skills. The appointment will be made at a point on the scale £2,174 to £3,096 per annum plus £280 London Allowance according to age and experience.

Further particulars may be obtained from the Assistant Secretary (Personnel), University College London, Gower Street, London WC1E 6BT, to whom applications should be sent by 8th March, 1976.

LONDON
UNIVERSITY COLLEGE LONDON

DEPARTMENT OF ANTHROPOLOGY

LECTURER

Applications are invited for the post of LECTURER in SOCIAL ANTHROPOLOGY. Preference will be given to candidates prepared to take responsibility for undergraduate and postgraduate teaching in the general and related aspects of general anthropological theory.

Applications to Assistant Secretary (Personnel), University College London, Gower Street, London WC1E 6BT from whom further particulars may be obtained.

LONDON
THE UNIVERSITY
UNIVERSITY ENTRANCE AND SCHOOL EXAMINATIONS COUNCIL

GENERAL CERTIFICATE OF EDUCATION EXAMINATION

The Council invites applications for appointment to the GCE EXAMINERSHIP in the GCE Examination in the following subjects :—

Ordinary level ARABIC, PHYSICS from June, 1977 ; Ordinary level BENGALI, GUJARATI, HINDI, PUNJABI, URDU from June, 1978 ; Ordinary level BIBLICAL KNOWLEDGE (Special) from June, 1978 to January, 1979.

Applicants should be graduates or hold equivalent qualifications, have professional qualifications, and an interest in teaching at GCE level. Experience in teaching and/or in operational work would be an advantage.

Applicants should be between the ages of 25 and 65 with three years post-graduate experience. Experience in GCE examining would be an advantage.

The marking of Advanced level examination work is undertaken at a hall in London and details regarding this aspect of the work will be supplied with application forms.

Application forms and particulars of remuneration, conditions of appointment and duties may be obtained from the Secretary to the Joint Council for Further and School Examinations, 10 Trinity Square, London, EC3P 3BS (Tower Street). Candidates will be required to complete forms which will be issued only on receipt of a stamped addressed envelope.

Previous applicants for these posts need not re-apply as they will be considered with new applicants.

LONDON
THE UNIVERSITY
INSTITUTE OF EDUCATION

TWO LECTURERS IN EDUCATION IN THE SCIENCE AND MATHEMATICS FIELDS

Applications for appointment to the following two posts are invited :—

LECTURER in EDUCATION with special reference to the teaching of INTEGRATED STUDIES IN SCIENCE. Ref.: 84/76.

For post 85/76 applicants should if possible have teaching experience in primary, secondary or middle school and a working knowledge of curriculum development in integrated science from 5 to 13 C.S.E. A level. Preference given to those who can also supervise higher degrees in science education.

LECTURER in EDUCATION with special reference to the teaching of MATHEMATICS. Ref.: 86/76.

For post 86/76 a high academic level in Mathematics and experience of modern methods of teaching it are essential. Ability to supervise higher degrees in Science education an advantage.

Further particulars and application forms may be obtained from the Secretary, University of London Institute of Education, Malet Street, London WC1E 7HS.

Please quote the relevant reference.

Completed applications should reach the Secretary by 19 March, 1976.

LAMPETER
SAINT DAVID'S UNIVERSITY COLLEGE
Lampeter

DEPARTMENT OF GEOGRAPHY

Applications are invited for the post of LECTURER in PHYSICAL GEOGRAPHY preferably to those with research interests in soils and/or hydrology. The appointment, which will date from 1st October, 1976, will be on the lower rung of the salary scale £2,174 to £3,096 per annum.

Further particulars may be obtained from the Academic Registrar, Saint David's University College, Lampeter, Dyfed SA48 7ED, to whom applications should be lodged by Friday, 12th March 1976.

LONDON
THE UNIVERSITY
INSTITUTE OF EDUCATION

LECTURER IN EDUCATION WITH SPECIAL REFERENCE TO TEACHING ENGLISH

Applications are invited for the above appointment from qualified teachers with a wide experience of teaching, educational administration and research in developing countries. Salary scale £2,174 to £3,096 (18) to £5,034 (25) to £6,444 plus £280 London Allowance and superannuation.

Applications and requests for further particulars obtainable from the Secretary, University of London Institute of Education, Malet Street, London WC1E 7HS, quoting reference LE/DC/THES. Completed applications should reach the Secretary not later than 9 April, 1976.

LONDON
THE UNIVERSITY
UNIVERSITY ENTRANCE AND SCHOOL EXAMINATIONS COUNCIL

GENERAL CERTIFICATE OF EDUCATION EXAMINATION

The Council invites applications for appointment to the GCE EXAMINERSHIP in the following subjects :—

Advanced Level FRENCH and GERMAN.

Ordinary Level FRENCH and GERMAN.

Advanced and Ordinary Level FRENCH (Special Paper to be separately specified).

Applicants should be graduates and have had recent teaching experience of appropriate standard in relevant examined subjects.

Application forms and particulars of remuneration, conditions of appointment and duties may be obtained from the Secretary to the Joint Council for Further and School Examinations, 10 Trinity Square, London, EC3P 3BS (Tower Street). Candidates will be required to complete forms which will be issued only on receipt of a stamped addressed envelope.

Previous applicants for these posts need not re-apply as they will be considered with new applicants.

LONDON
THE UNIVERSITY
UNIVERSITY ENTRANCE AND SCHOOL EXAMINATIONS COUNCIL

GENERAL CERTIFICATE OF EDUCATION EXAMINATION

The Council invites applications for appointment to the GCE EXAMINERSHIP in the following subjects :—

Advanced Level FRENCH and GERMAN.

Ordinary Level FRENCH and GERMAN.

Advanced and Ordinary Level FRENCH (Special Paper to be separately specified).

Applicants should be graduates and have had recent teaching experience of appropriate standard in relevant examined subjects.

Application forms and particulars of remuneration, conditions of appointment and duties may be obtained from the Secretary to the Joint Council for Further and School Examinations, 10 Trinity Square, London, EC3P 3BS (Tower Street). Candidates will be required to complete forms which will be issued only on receipt of a stamped addressed envelope.

Previous applicants for these posts need not re-apply as they will be considered with new applicants.

LONDON
THE UNIVERSITY
INSTITUTE OF EDUCATION

LECTURERS IN EDUCATION WITH SPECIAL REFERENCE TO TEACHING ENGLISH

Applications are invited for the above appointment from qualified teachers with a wide experience of teaching, educational administration and research in developing countries. Salary scale £2,174 to £3,096 (18) to £5,034 (25) to £6,444 plus £280 London Allowance and superannuation.

Applications and requests for further particulars obtainable from the Secretary, University of London Institute of Education, Malet Street, London WC1E 7HS, quoting reference LE/DC/THES. Completed applications should reach the Secretary not later than 9 April, 1976.

LEEDS
THE UNIVERSITY
AMENDED ADVERTISEMENT

DEPARTMENT OF THEOLOGY AND RELIGIOUS STUDIES

Applications are invited for the CHAIR in the Department of Theology and Religious Studies, tenable by the appointment of Professorial status. The successful candidate will be appointed to the Chair from the date of appointment or such later date as may be agreed with the successful candidate. Salary will be within the Professorial range and the appointment will be on terms as arranged with the successful candidate.

The University reserves the right to consider for appointment any person who submits an application.

Applications (two copies) stating age, qualifications and experience, and naming three referees, should be sent to the Registrar, The University, Leeds LS2 9JT, from whom further particulars may be obtained.

SHEFFIELD
THE UNIVERSITY

Applications are invited for the following posts from 1st October, 1976 :—

ECONOMICS in the School of European Studies. Applicants should be able to share in the teaching of the new degree course in European Studies and to contribute to the School's research programme. Preference will be given to candidates with an interest in the economics of the European Community.

SOCIOLOGY in the School of Education. Applicants should be able to share in the teaching of the new degree course in Social Studies and to contribute to the School's research programme. Preference will be given to candidates with an interest in the sociology of education.

Salary will be within the range £2,724 to £4,446 per annum, plus F.S.S.U.P.S. benefits.

Further particulars and application forms obtainable by the Registrar, The University, Sheffield S10 2TN, to whom completed applications should be returned by 15th March, 1976.

SHEFFIELD
THE UNIVERSITY

FACULTY OF LAW

FOUR LECTURESHIPS

Applications are invited for the following posts :—

One Lectureship will be located in the Department of Sociological Studies, and a special interest in penology and other social policy relating to crime would be an advantage.

One Lectureship will be in the Department of Law, and applicants should be able to share in the teaching of any one or more of the following areas : Equity, Commercial Law, Company Law, Coastal Protection Law. Applicants with specialisms in Socialist Legislation and Regulation of Industry will also be considered.

One Lectureship will be in the Department of Law, and applicants should be able to undertake teaching at undergraduate level in subjects to be agreed. Ability candidates with qualifications in Accountancy will be considered.

One of the other two Lectureships candidates with qualifications in Accountancy and a knowledge of legal studies may apply.

For two of the posts, salary will be in the range £2,724 to £4,446 and applications will be welcomed from persons having teaching experience at this level. For the other two posts, salary will be in the range £2,174 to £3,096 with superannuation.

Further particulars may be obtained from the Registrar, The University, Sheffield S10 2TN, to whom applications (five copies) should be sent by 8th March, 1976, quoting Ref. No. 54/76.

SHEFFIELD
THE UNIVERSITY

Applications are invited for the CHAIR of CHEMISTRY (Ref. 76/76) from 1st October, 1976.

Salary : Professor, the annual salary is in the range £6,450 to £7,740 with superannuation benefits. Initial salary will be fixed having regard to the qualifications and experience of the person appointed.

Further particulars from the Registrar and Secretary, The University, Sheffield S10 2TN, to whom applications (four copies) should be sent by 22nd March, 1976. Quote Reference : F.535/D.

LAMPETER
SAINT DAVID'S UNIVERSITY COLLEGE
Lampeter

DEPARTMENT OF GEOGRAPHY

Applications are invited for the post of LECTURER in PHYSICAL GEOGRAPHY preferably to those with research interests in soils and/or hydrology. The appointment, which will date from 1st October, 1976, will be on the lower rung of the salary scale £2,174 to £3,096 per annum.

Further particulars may be obtained from the Academic Registrar, Saint David's University College, Lampeter, Dyfed SA48 7ED, to whom applications should be lodged by Friday, 12th March 1976.

MANCHESTER
THE UNIVERSITY
DEPARTMENT OF EXTRA-MURAL STUDIES

STAFF TUTOR IN SOCIAL WORK

Applications invited for this post, the first Staff Tutor in Social Work and Community Studies, with professional qualifications and an interest in working in Extra-Mural Studies with special reference to industrial personnel. Ability to undertake some teaching in social administration, community organization and community work essential.

Salary scale £4,446 to £5,940 per annum, F.S.S.U.P.S. benefits. Superannuable.

Particulars and application forms obtainable by March 15th) from the Registrar, The University, Manchester 13. Quote Ref. : 11/76/T.

MANCHESTER
THE UNIVERSITY
CHAIR OF PHYSICAL CHEMISTRY

Applications are invited for a Chair of Physical Chemistry in the Faculty of Science. Further details of the Department's activities and facilities for the appointment may be obtained from the Registrar.

Salary within the professorial range £7,047 per annum, Superannuable.

Applications (two copies, one suitable for photocopying) giving full details of qualifications, experience, research, etc., and the names and addresses of three persons to whom reference may be made should be sent to the Registrar, The University, Manchester 13, by 31st March, 1976. Please quote reference 14/76/THES.

MANCHESTER
THE UNIVERSITY
TEMPORARY LECTURER IN EDUCATION

Applications are invited for the post of TEMPORARY LECTURER in Education in schools.

Salary scale £2,724 to £4,446 per annum ; Superannuation.

Particulars and application forms from the Registrar, The University, Manchester 13. Quote Ref. : 20/76/THES.

NEWCASTLE UPON TYNE
THE UNIVERSITY
CHAIR OF MEDIEVAL HISTORY

Applications are invited for the CHAIR of MEDIEVAL HISTORY, tenable by the appointment of Professorial status.

In accordance with the professorial salary scale, the present salary will be £6,801 with superannuation benefits.

Further particulars may be obtained from the Registrar, The University of Newcastle upon Tyne, 6 Kensington Terrace, Newcastle upon Tyne NE1 7RU, to whom applications (13 copies), giving the names of not more than three referees, must be lodged on or before 31st March, 1976.

Applications from outside the United Kingdom may submit one copy only.)

OXFORD
THE UNIVERSITY

PROFESSORSHIP OF ENGINEERING SCIENCE

The electors intend to proceed at an election to the Professorship of Engineering Science. Applications should be sent not later than 31st March, 1976 to the Registrar, University Offices, Wellington Square, Oxford OX1 2JD, from whom further particulars may be obtained.

SHEFFIELD
THE UNIVERSITY

FACULTY OF LAW

FOUR LECTURESHIPS

Applications are invited for the following posts :—

One Lectureship will be located in the Department of Sociological Studies, and a special interest in penology and other social policy relating to crime would be an advantage.

One Lectureship will be in the Department of Law, and applicants should be able to share in the teaching of any one or more of the following areas : Equity, Commercial Law, Company Law, Coastal Protection Law. Applicants with specialisms in Socialist Legislation and Regulation of Industry will also be considered.

One Lectureship will be in the Department of Law, and applicants should be able to undertake teaching at undergraduate level in subjects to be agreed. Ability candidates with qualifications in Accountancy will be considered.

One of the other two Lectureships candidates with qualifications in Accountancy and a knowledge of legal studies may apply.

For two of the posts, salary will be in the range £2,724 to £4,446 and applications will be welcomed from persons having teaching experience at this level. For the other two posts, salary will be in the range £2,174 to £3,096 with superannuation.

Further particulars may be obtained from the Registrar, The University, Sheffield S10 2TN, to whom applications (five copies) should be sent by 8th March, 1976, quoting Ref. No. 54/76.

SHEFFIELD
THE UNIVERSITY

Applications are invited for the CHAIR of CHEMISTRY (Ref. 76/76) from 1st October, 1976.

Salary : Professor, the annual salary is in the range £6,450 to £7,740 with superannuation benefits. Initial salary will be fixed having regard to the qualifications and experience of the person appointed.

Further particulars from the Registrar and Secretary, The University, Sheffield S10 2TN, to whom applications (four copies) should be sent by 22nd March, 1976. Quote Reference : F.535/D.

READING
THE UNIVERSITY

LECTURESHIP IN STATISTICS

Applications are invited for a Lectureship in Statistics in the Department of Applied Statistics, candidates should be interested in both theory and applications of probability and statistics. A preference will be given to those interested in operational research.

The person appointed should help in duties on the computer, but such other duties as may be arranged.

Further information may be obtained from the Secretary, Department of Applied Statistics, The University, Whiteknights, Reading RG6 2AN, by whom applications should be received not later than 15 March, 1976.

SHEFFIELD
THE UNIVERSITY
DEPARTMENT OF CIVIL AND STRUCTURAL ENGINEERING

Applications are invited for the post of Research Fellow in the Department of Civil and Structural Engineering to work on a project concerning blockwork sponsored by the Department of the Environment under the supervision of Dr. R. H. Dinsdale. Candidates should have a good honours degree in civil engineering with relevant practical experience, preferably in structures. Facilities for registration for a higher degree.

Initial salary up to £3,786 per annum, but appointment will be likely from 1st July to be at the minimum point of the scale.

Further particulars may be obtained from the Registrar and Secretary, The University, Sheffield S10 2TN, to whom applications should be returned not later than 15th March, 1976, please quote reference 11/40/DJ.

SOUTH AFRICA
UNIVERSITY OF THE WITWATERSRAND, Johannesburg

DEPARTMENT OF ACCOUNTING

CHAIR OF ACCOUNTING
SENIOR LECTURESHIPS

Applications are invited for the above posts. Duties will be in connection with undergraduate and graduate courses in accountancy and auditing. Applicants should have a degree in Commerce or Economics with accountancy as a major subject and should be members of the South African Institute of Chartered Accountants and Auditors.

Salary : Professor, the annual salary is in the range R8,400 to R9,600 per annum. Senior Lecturer, the annual salary is in the range R6,360 to R7,560 per annum. Initial salary will be fixed having regard to the qualifications and experience of the person appointed.

Senior Lecturer: as soon as possible.

The University's policy is not to discriminate in the appointment of staff on the grounds of colour, race, religion or sex.

Further particulars relating to the posts are available from the Information Officer, Association of Commonwealth Universities, 36 Gordon Square, London WC1H 0PF, to whom applications should be forwarded by 31st March, 1976.

SUSSEX
THE UNIVERSITY

Temporary LECTURESHIPS for one year from 1st October, 1976 :—

ECONOMICS in the School of European Studies. Applicants should be able to share in the teaching of the new degree course in European Studies and to contribute to the School's research programme. Preference will be given to candidates with an interest in the economics of the European Community.

SOCIOLOGY in the School of European Studies. Applicants should be able to share in the teaching of the new degree course in Social Studies and to contribute to the School's research programme. Preference will be given to candidates with an interest in the sociology of education.

Salary will be within the range £2,724 to £4,446 per annum, plus F.S.S.U.P.S. benefits.

Further particulars and application forms obtainable by the Registrar, The University, Sussex House, Falmer, Brighton BN1 9RH, quoting reference LE/DC/THES. Completed applications should reach the Secretary not later than 9 April, 1976.

WARWICK
THE UNIVERSITY

LECTURESHIP IN OPERATIONAL RESEARCH

Applications are invited for a Lectureship in Operational Research in the Department of Applied and Business Studies, tenable from 1st October, 1976. The successful candidate will be expected to participate in the teaching of undergraduate and postgraduate courses in Operational Research, and to undertake research in this field. Preference will be given to candidates with experience in the application of Operational Research to financial problems.

Initial salary in the Lecturer Scale, £2,174 to £3,096, on the scale £3,096 to £4,446, with superannuation.

Further particulars from the Registrar, The University, Coventry (Telephone Coventry 24011, extension 1064) to whom applications (four copies) should be sent by 22nd March, 1976. Quote Reference : B.535/D.

WARWICK
THE UNIVERSITY

LECTURESHIP IN OPERATIONAL RESEARCH

Applications are invited for a Lectureship in Operational Research in the Department of Applied and Business Studies, tenable from 1st October, 1976. The successful candidate will be expected to participate in the teaching of undergraduate and postgraduate courses in Operational Research, and to undertake research in this field. Preference will be given to candidates with experience in the application of Operational Research to financial problems.

Initial salary in the Lecturer Scale, £2,174 to £3,096, on the scale £3,096 to £4,446, with superannuation. Initial salary will be fixed having regard to the qualifications and experience of the person appointed.

Further particulars from the Registrar, The University, Coventry (Telephone Coventry 24011, extension 1064) to whom applications (four copies) should be sent by 22nd March, 1976. Quote Reference : B.535/D.

WARWICK
THE UNIVERSITY

LECTURESHIP IN ECONOMICS

Applications are invited for a Lectureship in Economics, tenable from 1st October, 1976. The successful candidate will be expected to participate in the teaching of undergraduate courses in Economics, and to undertake research in this field. Preference will be given to candidates with experience in the application of Economics to financial problems.

Initial salary in the Lecturer Scale, £2,174 to £3,096, on the scale £3,096 to £4,446, with superannuation. Initial salary will be fixed having regard to the qualifications and experience of the person appointed.

Further particulars from the Registrar, The University, Coventry (Telephone Coventry 24011, extension 1064) to whom applications (four copies) should be sent by 22nd March, 1976. Quote Reference : B.535/D.

WARWICK
THE UNIVERSITY

LECTURESHIP IN STATISTICS

Applications are invited for a Lectureship in Statistics, tenable from 1st October, 1976. The successful candidate will be expected to participate in the teaching of undergraduate courses in Statistics, and to undertake research in this field. Preference will be given to candidates with experience in the application of Statistical methods to financial problems.

Initial salary in the Lecturer Scale, £2,174 to £3,096, on the scale £3,096 to £4,446, with superannuation. Initial salary will be fixed having regard to the qualifications and experience of the person appointed.

Further particulars from the Registrar, The University, Coventry (Telephone Coventry 24011, extension 1064) to whom applications (four copies) should be sent by 22nd March, 1976. Quote Reference : B.535/D.

Universities continued

SUSSEX
THE UNIVERSITY
CHAIR IN SOCIAL PSYCHOLOGY

Applications are invited for the Chair of Social Psychology, tenable from 1st October, 1976.

The salary will be not less than £7,997 per annum with U.S.S. benefits.

Application forms and further particulars may be obtained from the Establishment Officer, University of Sussex, Falmer, Brighton BN1 9QN, to whom they should be returned by 26th April, 1976.

WARWICK
THE UNIVERSITY
LECTURESHIP IN ACCOUNTING AND FINANCE

Applications are invited for a LECTURESHIP IN ACCOUNTING AND FINANCE in the School of Industrial and Business Studies, tenable from 1st October, 1976. Ideally candidates should offer an appropriate academic degree and a professional qualification, together with practical experience in the profession, in industry and commerce. Applicants should also be prepared to contribute at all levels in undergraduate and postgraduate teaching in the field of Financial Accounting and Accounting Theory, and should be willing to undertake research in the fields of financial accounting, accounting standards and accounting data processing. Experience teaching in particular these subjects would be welcomed.

Salary on the Lecturer scale £1,911 to £3,201 or Senior Lecturer scale £3,201 to £4,305 per annum.

Application forms and further particulars from the Assistant Registrar (Staff), The University, Coventry CV4 7AL, quoting reference number 34-1-76. Closing date for applications 19th March, 1976.

WALES
UNIVERSITY COLLEGE OF NORTH WALES
Bangor

Applications are invited for the post of LECTURER in ZOOLOGY.

The appointment will take effect not later than 1st October, 1976.

Preference will be given to applicants with research interests in ecology.

Salary will be on the scale £3,173 to £6,436 per annum according to age, qualifications and experience.

Further particulars may be obtained from the Secretary and Registrar (applicants' own copies), giving details of age, qualifications and experience, together with the names and addresses of three referees, should be sent to the Registrar and Secretary, University College of North Wales, Bangor LL57 2DG, to whom they should be returned by 31st March, 1976.

Holidays and Accommodation

THE IS DAY
GUIDED ARCHAEOLOGY LECTURE TOUR OF ISRAEL
Departing 30th July and 20th August. £379 inclusive.
PROJECT EXPEDITIONS LTD. (TH), 32 Lexington Street, W.1.
Tel. 01-262 3506

Polytechnics

QUEEN MARGARET COLLEGE
EDINBURGH

HEAD OF DEPARTMENT OF COMMUNICATION ARTS

Applications are invited from men and women with good experience in Higher Education for appointment to the Headship of this newly-created Department. The appointment will take effect from April/May, 1976, or as soon thereafter as possible.

The Department of Communication Arts, with 18 full-time academic staff, has responsibilities in the following areas: Design, Drama, Educational Technology, English, Environmental Studies, Language, Movement, and Speech.

Queen Margaret College, founded in 1875, is a Scottish Central Institution offering courses at Degree and Diploma level. The curriculum of the College includes full-time courses in Dietetics, Drama, Health Visiting, Home Economics, Institutional Management, Nursing, Social Work, and Speech Therapy.

Salary: £8,277 p.a. (currently under review).

Application forms and further particulars from: The Secretary, Queen Margaret College, 36 Clerwood Terrace, Edinburgh EH12 8TS. Telephone 031-334 8111.

RICHMOND COLLEGE

Tutor in
ENGLISH AS A FOREIGN LANGUAGE
Tutor in
MATHEMATICS

The College wishes to appoint a tutor in English as a Foreign Language and a tutor in Mathematics with effect from September, 1976. The appointments, which are open to men and women, will be full-time and for one year in the first instance. Applicants should be graduates with appropriate teaching qualifications and experience. Salary: £2,500.

Application forms and further information may be obtained from the Principal, Richmond College, Friars Stile Road, Richmond, Surrey.

Applications should be returned by Friday, March 12th.

PLYMOUTH POLYTECHNIC

School of Electrical Engineering

RESEARCH ASSISTANT

NETWORK SWITCHING IN COMMUNICATION SYSTEMS

This project is a joint venture between the Polytechnic, and GEC Coventry, where some time will be spent in the early stages. The post demands high academic qualifications and where appropriate some industrial experience. Research Assistants are normally required to register for a higher degree, although post-doctoral applicants can be considered.

Appointment is for a period of two years with the possibility of a third year, and carries an initial salary of either £2,459 or £2,721 with annual increments. Research Assistants undertake 6 hours teaching weekly.

Applications to be returned by 5th March 1976, obtainable with further particulars from Personnel Officer.

PLYMOUTH POLYTECHNIC DRAKE CIRCUS PLYMOUTH PL4 8AA

MANCHESTER
MANCHESTER POLYTECHNIC

FACULTY OF ART AND DESIGN

DEPARTMENT OF COMMUNICATION ARTS AND DESIGN

PRINCIPAL LECTURER: DESIGN FOR LEARNING

The Department is in the process of preparing proposals for a new B.A. (Hons.) course in design for educational media: "Design for Learning". The person appointed will have duties within the Department's whole area of responsibility but in particular will be required to play a leading part in the preparation of definitive proposals for the new course and it is expected will face challenging tasks of developing the full potential of educational design studies in association with other areas of study.

Applicants should have appropriate industrial and teaching experience.

Salary scale: £5,430 to £6,642 (bar) to £7,578.

Further particulars and application form (returnable by 8 March, 1976) please send a self-addressed envelope marked A/246 "to the Secretary, Manchester Polytechnic, Lower Ormond Street, Manchester, M15 6BX.

SHEFFIELD
THE POLYTECHNIC
DEPARTMENT OF CIVIL ENGINEERING AND BUILDING

PRINCIPAL LECTURER IN CONSTRUCTION

Applicants should possess relevant qualifications and experience in constructing experience in building or civil engineering.

The appointment may be made at any appropriate point within the above scale depending upon the qualifications and experience of the successful candidate, subject to the current limitations relating to criteria for increments and to establishment for further appointments.

Salary Scale: £3,930 to £4,887 (bar) to £5,676.

Application forms and further details obtainable from the Personnel Officer, Sheffield Polytechnic, Pond Street, Sheffield 1, to whom completed forms should be returned as soon as possible.

TEESSIDE
THE POLYTECHNIC
DEPARTMENT OF CIVIL AND STRUCTURAL ENGINEERING AND BUILDING

Applications are invited for the post of

PRINCIPAL LECTURER IN CHEMISTRY

To lead the Chemistries and Civil Engineering groups as section of the department.

Salary scale: £6,180 rising to £6,852 (next bar) by £342 to £7,536.

Application forms, returnable by 8th March, are available from the Registrar and Secretary, Polytechnic, Borough Rd., Middlesbrough, Cleveland TS1 3BA.

TEESSIDE
THE POLYTECHNIC
DEPARTMENT OF BUSINESS AND PROFESSIONAL STUDIES

LECTURER GRADE II IN ECONOMICS

Salary scale £3,930 to £4,887 (bar) to £5,676 per annum. Starting salary dependent on age, experience and qualifications.

Application forms and further particulars from the Personnel Officer, Polytechnic, Borough Rd., Middlesbrough, Cleveland TS1 3BA.

Closing date 8th March, 1976.

Colleges of Education

MANCHESTER
CHARLOTTE MASON COLLEGE OF EDUCATION
DIVISION OF EDUCATIONAL STUDIES

Applications are invited from graduates for the post of LECTURER IN EDUCATIONAL STUDIES to assist in the development of the new courses leading to the Certificate in Education and the Bachelor of Education degree.

Applicants should have a good honours degree and a professional qualification in education. Experience in teaching in schools and colleges of education is desirable.

Salary scale £3,930 to £6,642 (bar) to £7,578 per annum.

Application forms and further particulars may be obtained from the Secretary, Charlotte Mason College of Education, Ambleside, Cumbria LA22 9BB.

Closing date for receipt of applications 15th March, 1976.

ROEHAMPTON INSTITUTE OF HIGHER EDUCATION

Appointment of

PRINCIPAL

The Governors of SOUTHLANDS COLLEGE (Methodist Foundation) invite applications for the post of PRINCIPAL which will become vacant upon the retirement of Miss Pauline Callard in August 1977.

Particulars of the appointment are available from the Clerk to the Governors, Southlands College, Wimbledon Parkside, London SW19 5NN (Tel. 01-946 2234).

Closing date for applications 18th March 1976.

ESSEX
CHELMER INSTITUTE OF HIGHER EDUCATION
PROPOSED FACULTY OF BUSINESS ADMINISTRATION

DEPARTMENT OF BUSINESS STUDIES

LECTURER Grade II in LANGUAGES required from 1 September, 1976. Applicants should have an honours degree in French and have a keen interest in modern literature. The successful applicant will be required to teach one other language as well as French. Candidates offering a different second language will be welcome.

The Department offers a full-time two year post A level course leading to a Diploma in European Languages, and may well make a significant contribution in modular degrees to be developed by the Institute. There are also linguists on the full-time teaching staff.

Salary scale: £3,469 to £4,527 per annum.

Assistance may be given towards removal expenses.

Application form and further details from the Acting Principal, Mid-Essex Technical College, Victoria Road South, Chelmsford CM1 1LL.

NORWICH
KERWICK HALL
(Church of England College for 700 men and women students)

Applications are invited for the post of SENIOR LECTURER in EDUCATION. Applicants should have teaching experience with children under 12 and appropriate qualifications in education. The appointment will date from the 1st September, 1976.

Application form and further particulars are obtainable from the Principal, Kerwick Hall, Norwich NR1 4TL. The closing date for receiving applications is Monday, 8th March.

NORTHUMBERLAND
NORTHUMBERLAND COLLEGE OF EDUCATION
North Road, Ponteland
Newcastle upon Tyne
DIVISION OF ENVIRONMENTAL SCIENCE
LECTURER Grade II £3,279 to £5,355

Applications are invited to this post, now vacant, from 1st September.

Candidates should have a professional qualification in teaching and a degree, or should be able to teach a broad area of biological science or one of the physical sciences.

The actual teaching assignment will be arranged on appointment.

Candidates should be experienced in working with groups of tutors teaching interdisciplinary, integrated courses in ecological and environmental topics to A level, degree or B.Ed. degree levels in students being trained for primary, middle and secondary schools.

Candidates will also be expected to assist with general work in schools with groups of students.

Application forms, returnable by 12th March, and further particulars obtainable from the Principal at the college.

WINCHESTER
KING ALFRED'S COLLEGE

Applications are invited by September 1976, from candidates with appropriate qualifications for the following posts:

(a) Two LECTURERSHIPS in HISTORY to teach B.A. and B.Ed. Honours courses. Applicants should be interested and experienced in the following areas: Medieval History and 19th Century and 20th Century British History.

(b) One LECTURERSHIP in ENGLISH to teach B.A. and B.Ed. Honours courses. Applicants should be interested and experienced in the following areas: Literature, Literature and Language, Literature and History. The successful applicant will be required to offer a research specialism in one of the following areas: Literature of the 19th Century and 20th Century, Literature of the Romantic Period, Literature of the Victorian Period, Literature of the Twentieth Century.

Experience of teaching in schools is not essential. Further details may be obtained from the Principal, to whom applications should be sent by 8th March, 1976.

Courses

North East London Polytechnic—Essex County Council

Anglian Regional Management Centre

Diploma in Management Studies (Education)

Applications are invited for the programme leading to the Diploma in Management Studies (Education) which will be offered on a day release basis over 2 years, commencing at Danbury Park in September, 1976.

The Course is based on a series of modules, each dealing with a major aspect of management in the Education Service—it is intended for those people holding a position of some administrative responsibility, with a career commitment in Education (Management in schools, colleges, polytechnics, universities, local government and educational service).

Further details may be obtained from:

The Registrar, Mrs. A. Highmore,
Anglian Regional Management Centre,
Danbury Park, Danbury, Chelmsford, Essex CM3 4AT.
Telephone: Danbury 2141 (024-541 2141).

THE NATIONAL FILM SCHOOL

is now accepting applications until 29th February for the course commencing October, 1976. This course is at postgraduate/professional level (although a degree is not required) and lasts three years.

The School has its own facilities at Beaconsfield Film Studios for the professional training of writers, directors, producers, cameramen, editors and sound technicians.

Write National Film School, Beaconsfield Film Studios, Station Road, Beaconsfield, Bucks, for details.

General Vacancies

Associate Professor-Head of Mechanical Design

£8,650-£9,800

The new Mechanical Design Branch is to teach all aspects of mechanical design, fabrication and production engineering, reliability and quality assurance. Instruction will be given to the first degree course, to higher degree courses in Guided Weapons and Military Vehicle Technology, to the Army Staff Course and to other short courses.

The Associate Professor who will head the new faculty will set up the Branch and, thereafter, be responsible for its teaching, assisted by a staff of six, including four lecturers. The successful candidate will also be expected to initiate, stimulate and guide relevant research.

Candidates should have a 1st or 2nd class honours degree (or equivalent qualification) in an appropriate subject and must have relevant professional and administrative experience. Preference will be given to those with a knowledge of weapon technology, and experience of teaching at University level.

Starting salary will be within the range shown above and there is a non-contributory pension scheme. The post is based at the College in Shrivenham, Wiltshire, where accommodation can be provided for a single candidate in a Hall of Residence. There is a possibility of housing for a married person.

For further details and an application form (to be returned by 12 March, 1976) write to the Civil Service Commission, Alencon Link, Basingstoke, Hants, RG21 1JB, or telephone Basingstoke (0256) 58551 (answering service operates outside office hours) or London 01-839 1092 (24 hour answering service). Please quote ref. B/9246/Z.

Royal Military College of Science Shrivenham

Overseas

PhD and fluent in Arabic?

The College of Commerce at the University of Riyadh, Riyadh, Saudi Arabia is accepting applications from qualified Professors/Lecturers who can teach in Arabic (Ph.D. is required) in the following areas:-

Economic Theory
Petroleum Economics
Industrial Economics
Political Science
Government System in Islam
International Relations
Comparative Public Administration
Personnel Administration (Public Administration)
Public Finance
Finance & Financial Management
Personnel Management and Industrial Relations
Mathematics and Statistics
Cost Accounting - Financial Accounting

Applicants are requested to submit their applications along with copies of their academic degrees, transcripts, and evidence of past experience no later than March 1st 1976, to the following address. The selected candidates will be advised of the result.

Dean, College of Commerce, University of Riyadh, Riyadh, Saudi Arabia

Saudi Arabia

Fellowships and Studentships

LONDON
THE UNIVERSITY
WARBURG INSTITUTE
SENIOR RESEARCH FELLOWSHIP

Applications are invited for a Senior Research Fellowship tenable for two years from 1 October, 1976, with the possibility of renewal for a third year, at £5,562 per annum, for research in any of the areas of study covered by the Warburg Institute. The Fellowship is intended for candidates who already have a higher degree and/or experience of university teaching.

Applications, together with curriculum vitae, outline of proposed research, publication and two testimonials, should be sent to the Director, Warburg Institute, Woburn Square, London WC1H 0AB (from whom further particulars may be obtained) by 1st March, 1976.

OXFORD
ST. HUGH'S COLLEGE

Application is invited for the following graduate awards: MARTINEAU OBSERVERSHIP in MATHEMATICS

The College proposes to offer a research scholarship of £1,500 in Italian Studies, open to a graduate of any standing or seniority who is engaged, or wishes to engage, in work in Italian Literature. Language or History. The scholarship will be tenable for one year from 1st October, 1976. Further particulars from the Principal, St. Hugh's College, Oxford, to whom applications should be sent by 15th March, 1976.

MIDDLESEX
NORTH LONDON COLLEGIATE SCHOOL

Canons, Edgware, Middlesex HA8 7RJ

(Direct Grant Girls' School 900 pupils including Independent)

Required for September, 1976, ASSISTANT TEACHER to teach MATHEMATICS throughout the School.

Applicants should have good academic qualifications, B.Sc., A.R.C.S. and M.Sc., A.T.A., 'A' level syllabuses are followed. Department of five.

Application by letter to the Headmistress giving names of two referees, by 8th March to be dependent on experience and qualifications.

Administration

COUNCIL FOR NATIONAL ACADEMIC AWARDS

Applications are invited for three newly-created posts of ASSISTANT REGISTRAR with responsibilities in the following areas:

(i) ARTS and HUMANITIES, including Music and PERFORMING ARTS;
(ii) SCIENCE, including LIFE SCIENCES, including MATHEMATICS and COMPUTING;
(iii) GENERAL DUTIES-concerned with applications for ORDINANCE, DEGREES and DIPLOMA COURSES, and COUNCIL visits to institutions.

In addition to their work in specified academic fields, Assistant Registrars are involved in the development of research policy.

Candidates should be graduates and in the case of (i) and (ii) some experience in a field relevant to their subject area or equivalent, will be looked for. In addition, they should have experience of administration and/or responsible administrative experience.

The salary will be within the scale of £3,930 rising by annual increments to £6,300 including London Weighting.

Further particulars of the post may be obtained from the Secretary, Council for National Academic Awards, 344/364 Grays Inn Road, London WC1X 8BP, to whom applications should be submitted by 15th March, 1976.

Colleges of Education continued

LIVERPOOL
CITY OF LIVERPOOL COLLEGE OF HIGHER EDUCATION
(C. P. MOTT HALL)
Liverpool Road, Prescot, Merseyside L34 1NE
Tel: 051-489 4201
Principal Designate, Brian Cane

Applications are invited for the following posts:—

(1) LECTURER II in SOCIOLOGY (Social Policy). Candidates for honours degree in Sociology or Social Administration essential. Publications or research interests. The successful applicant will assist in teaching and developing proposed H.Ed. and B.A. Honours degree courses.

Applications will be considered from Sociologists who can initiate a course in the Sociology of Social Policy.

(2) LECTURER I in the HISTORY and APPRECIATION of ART, good Honours degree, or equivalent. Research or publications desirable. The successful candidate will initiate and develop courses in the new H.Ed. and B.A. Honours degree programmes. Ability to contribute in one of the practical art specialisms an advantage.

Salary scales, Lecturer II—£3,870 to £6,495.
Lecturer I—£3,270 to £5,490.

Application forms and further details can be obtained from the Principal Designate to whom completed application forms should be returned not later than 12th March, 1976.

Courses

LANCASHIRE
EDGE HILL COLLEGE OF HIGHER EDUCATION
DIVISION OF IN-SERVICE STUDIES

M.Ed. (Part-time) DEGREE COURSE
(University of Lancaster)

A Conference for teachers and others interested in Research or publications in the field of Religious Education will be held at Edge Hill College, Ormskirk, Lancashire, on Saturday, 13th March, 1976. Speakers: Professor Ninian Smart, Director of the Institute of Religious Studies, University of Lancaster; Dr. Geoffrey Parrinder, Emeritus Professor of Comparative Religion, University of London; Dr. Peter Slater, Lecturer in Religious Studies, University of Lancaster.

Further details from the Secretary, Division of In-Service Studies, Edge Hill College, Ormskirk, Lancashire.

Colleges of Further Education

Buckinghamshire County Council
Education Department

BUCKINGHAMSHIRE COLLEGE OF HIGHER EDUCATION
Queen Alexandra Road, High Wycombe, Bucks.

School of Management Studies and Languages

Senior Lecturer in Marketing

To commence as soon as possible. Applicants should be graduates with professional experience in international marketing and preferably some experience in education. The successful applicant will join a team of staff concerned with degree and postgraduate work in the general area of international business.

Salary Scale: £5,031-£5,955 p.a.—Bar—£6,417 p.a.

Application forms and further particulars available from the Assistant Director, to whom completed forms should be returned as soon as possible.

Announcement

95% loans on post-1875 houses

Excellent terms for professional couples
Michael Beer and Partners
15 Eldon Road Reading RG1 4DN.
Telephone 0734 582233

Overseas

AUSTRALIA
LECTURER IN EDUCATIONAL SOCIOLOGY

Salary $A394.60/620.70 per fortnight.

Darling Downs Institute of Advanced Education, Toowoomba

Applications are invited for the position of Lecturer in Educational Sociology at the Darling Downs Institute of Advanced Education, a regional college of advanced education located in the Garden City of Toowoomba, 140km (90 miles) west of Brisbane. It is hoped that the appointee could commence duties during July or August, 1976. The Darling Downs Institute of Advanced Education was established in 1967, is autonomous and offers degree courses in Civil-Agricultural-Electrical-Mechanical Engineering, Applied Science, Education and Business Studies, in addition to a well established School of Arts offers Diplomas in both creative and liberal arts. The Institute serves Southern Queensland west of the Great Dividing Range and has a population base of 200,000 persons. The Institute currently has a full-time student population of 1,700 and fosters innovative approaches to academic course organization and teaching.

Toowoomba is an attractive city of 65,000 people and boasts first class educational, cultural and medical facilities. The annual average temperature range is 45 degrees F-70 degrees F. Toowoomba residents can travel to the State Capital, Brisbane, within two hours and to the famous Gold Coast Resort within two and a half hours. The position being advertised will require an appointee with a higher degree in Sociology or Education (with a course emphasis in the area of Educational Sociology). In addition, the appointee should have had successful teaching experience in both the Primary or Secondary and Tertiary levels, in addition to offering courses in Educational Sociology to all students undertaking the Diploma of Teaching (Primary) and the Bachelor of Education Awards, the appointee will be expected to develop an advanced elective course in an area of his personal interest, also the appointee will be encouraged to undertake applied research.

Application forms and further information available from The Agent-General for Queensland, 392/3 Strand, London WC2R 0LZ.

Closing date 8th March, 1976.

The next

'REVIEW OF NEW COURSES'

feature will appear
ON FEBRUARY 27th 1976

For details of advertising please contact Charlotte Coulson

01-837 1234 EXT 575

Leeds POLYTECHNIC

Arising from re-organisation of higher education in Leeds the following 4 posts are vacant from 1st September, 1976.

HEAD OF SCHOOL APPOINTMENTS

Carnegie School of Physical Education and Human Movement Studies (Grade V)

School of Architecture and Landscape (Grade V)

School of Management and Business Studies (Grade VI)

School of Mechanical and Production Engineering (Grade V)

Salary Scale:
Grade V £7395-£8271
Grade VI £8037-£8913

Details from:
The Academic Officer, (H.13)
Leeds Polytechnic,
Calverley Street,
Leeds LS1 3HE
0532 41101

Closing Date:
12th March, 1976

dundee college of technology

School for Independent Study

Administrator

Expanding School for Independent Study responsible for innovative Diploma and other programmes requires a School Administrator.

Person appointed will join, as its Head, a busy team of Administrators and Secretaries whose work includes budgeting and resource management, registration and admissions, servicing of committees, public relations, academic politics and administration.

Starting salary dependent on age, experience and qualifications.

Salary Scale £3,183 to £3,963 including London Weighting.

Further information and application forms available from the Personnel Office, Ref. S/AC/88, North East London Polytechnic, Romford Road, London E15 4LZ. (Telephone 01-555 0011, ext. 28.)

Closing date March 5, 1976.

NELP North East London Polytechnic